Science And Superstition

At a local school in Dover, Pennsylvania, the school board decided to teach students **creationism**. Their excuse for this abrogation of even the minimum of scholarly standards is a mixture of falsehood, nonsense and double talk:

> "Because Darwin's Theory is a theory, it continues to be tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. A theory is defined as a well-tested explanation that unifies a broad range of observations. Intelligent Design is an explanation of the origin of life that differs from Darwin's view."

Creationism (aka "Intelligent Design") is a worthless pseudoexplanation, the sole function of which is to resist the implications of the theory of evolution. An *explanation* of the origins of life must explain how complex organisms arose from non-biological precursors. So any purported explanation that does not include a description of such a process is inherently worthless. Furthermore, an explanation of life as we see it today must explain how adaptations (purposeful properties) come into being. So any explanation that invokes a pre-existing purpose whose origin is itself inexplicable, is also inherently worthless. And since God could have made the world any way he liked, Creationism is also untestable and anti-scientific. Its purportedly authoritative advocates are intellectually **dishonest**.

By contrast, **evolution** is a scientific theory that has survived **rigorous critical scrutiny**. Evolution explains how life arose from simple non-biological precursors, and how it acquired its adaptations. Science teachers in Dover have quite correctly refused to read out any apology for creationism because by doing so they would promote rank superstition.

However, the religious world is not alone in having worthless superstitions. Secular mental health charities like Rethink promote a view of the world based on the idea of **mental illness**. According to Rethink's worldview people take actions based on chemicals buzzing around in their brain. In reality, people act on their theories and values and not on orders from mindless **chemicals** or **fictional mental illnesses**. Unfortunately, nonsense about mental illness is what passes for serious discussion of moral issues among large and influential sections of the secular world. This, too, is an abrogation of intellectual and moral standards. For the sake of science and freedom and reason, we must abandon these secular superstitions as well.

Sat, 02/12/2005 - 14:32 | **digg** | **del.icio.us** | **permalink**

don't overplay your hand

Evolution explains how life arose from simple non-biological

precursor

Are you sure about that?

Doesn't evolution explain how life arose from other life, and how speciation occurs, and how common descent can have happened? If the theory of evolution-proper is thought to incorporate, as well, the explanation of how "how life arose from *non-biological* precursors", it's news to me.

Seems to me for that, you need some additional hypothesis, such as "lightning + amino acid soup" (I don't actually know what the current consensus is). Another possible hypothesis might be "seeding from outer space". But whatever that hypothesis (about origins of life) it would not be essential to the theory of *evolution* per se. In other words, even if "lightning + amino acid soup" is a wrong explanation of how the first RNA/DNA formed, it wouldn't make *evolution* wrong.

That's because evolution is not *about* the origin of life from non-biological precursors. It's about "change in the gene pool of a population over time" (got this from your link). Right?

Ob. Disclaimers: I am not a "creationist". I agree that "creationism" is nonsense. I agree that evolution should be taught in schools. I see no sense in "teaching creationism" in schools. Nor in slapping "only a theory" on evolution (everything in science is "only" a theory; typically, very strong ones, and evolution is one such). IMHO those who push "creationism" are misguided and reactionary at best. I just see no sense in overplaying your hand like this.

by Blixa on Sun, 02/13/2005 - 05:15 | **reply**

Re: don't overplay your hand

I take your point, which is a good one. Maybe **The World** should have drawn a distinction between our best explanations of the origin *of new adaptations* in existing organisms and our best explanations the origin *of the first replicators*, since the latter explanations are much more sketchy and more rickety.

Nevertheless, in the context of the controversy between evolution and creationism, the fact that one class of scientific explanations is more sketchy and rickety than another is not relevant. The issue there is not between a better and a worse explanation, but between explanation and non-explanation.

To forbid science to claim to have explained anything until we have a theory that we are sure will never be superseded, is holding it to an impossibly high standard, one that makes the above distinction impossible to state in words. Nevertheless it is a real distinction, crucial to all progress in understanding anything.

Science was right to claim that Newton had explained, with his theories of gravity and motion, why the planets move in ellipses with the sun at one focus. It explained it, and it explained it with good, independently-testable, scientific theories, while the theory that God had ordained ellipses because their shape pleased him would have been a non-explanation.

The fact that Newton's explanation was later superseded by one that denied the existence of gravitational forces is not relevant. Nor is the fact that neither Newton's nor any other scientific theory is an *ultimate* explanation (for instance, Newton did not explain why the gravitational force obeyed an inverse square law rather than some other formula). And furthermore, though it was false, Newton's theory contained a great deal of truth that survived into Einstein's theory. It could not have been as successful as it was in its

predictions if that had not been so. The divine-fiat theory, on the other hand, is always equally 'successful' no matter what is to be explained, and hence it is always equally empty.

Similarly, evolution theory today, with its replicators and genes and mutations and selections and genotypes and phenotypes, *has* explained the origin of life. The fact that a number of possibilities are still open for the actual sequence of chemical events, does not change the fact that when Darwin proposed his first, flawed, version of the theory, something fundamentally changed: what had previously been a mystery of 'how could that possibly be?', had become a mystery of 'what, specifically, happened'. The latter is an open-ended mystery. There will never be an ultimate explanation. Even if we had a video of the formation of the original ancestor-replicator out of non-replicating components, there would still be the mystery of why the laws of physics were such as to permit things like that to happen.

There will always be great mysteries, big gaps, and also serious mistakes, and we shall always be ignorant of what lies beyond, or beneath, or in the gaps between, our knowledge. That does not change the fact that we already have genuine explanations that contain an enormous amount of truth, and that there is a significant distinction between modes of thought that seek and discover and criticise and improve these explanations, and modes that seek only to bolster a fixed non-explanation.

by **David Deutsch** on Sun, 02/13/2005 - 11:17 | **reply**

Criticism

The one criticism of evolution by creationists that seems to make sense is they come up with examples where there would be no survival advantage if only part of it was present. For example, they may point out a mechanism in a cell where 10 different elements are needed for a certain function, and if only one of them is missing the other 9 elements absolutely do not function and do not even give a very slight survival advantage, just a a car without a carburator doesn't even function a little bit better than a car with no engine at all. Then they point out that this can't be explained by incremental random mutations, as the likelihood that a mutation happens that causes all these 10 things at once is just as unlikely as all molecules in a room moving to one corner. Does anybody have a link to a good article dealing with this criticism? I am familiar with the argument that an eye can start just very simply as a single light detecting cell which gives a very slight survival advantage, where a bunch of those tiny increments eventually lead to an eye. But I haven't seen an argument dealing with cases where there is absolutely no survival advantage unless a bunch of elements arise at the same time.

Henry Sturman

by **Henry Sturman** on Sun, 02/13/2005 - 11:50 | **reply**

Re: Criticism

…cases where there is absolutely no survival advantage unless a bunch of elements arise at the same time

The generic answer given by evolutionary theory is that there are no such cases in nature. Where there are groups of improvements where none of them would be of any use unless the others also happened, these always evolved from previous small changes which *were* of use without the others happening as well.

The most often-cited alleged example of adaptations that could not

possibly come about in that way (called "irreducible complexity" by creationists) are those of the eye. But this has been debunked so often and so thoroughly by evolutionists that, perhaps, it is not cited so often nowadays. Well, there's the case of the bombardier beetle, which is debunked **here**.

As a non-specialist, I'd say that the state of the argument as a whole is one of blind hope and unsubstantiated claims by people who don't know what they're talking about, versus thorough – if at times rather patronising – debunkings by people who do. In short, there is no evidence whatsoever of the existence of "irreducible complexity" in biological adaptations.

by **David Deutsch** on Sun, 02/13/2005 - 13:55 | **reply**

2 theories

Ok David, we're definitely on the same page then. :-) Let me reiterate my Disclaimers by emphasizing that my post is *not* to be interpreted as an attempt to "forbid science to claim to have explained anything until we have a theory that we are sure will never be superseded". I just wanted (partially for my own sake) to clear up what evolution-proper is ("new adaptation"), and that it need not include an explanation of origins ("first replicators"). Because my impression was always that they are independent from one another, and in particular we can be more sure of one than the other with no contradiction.

You acknowledge, I think, that we are less sure of the first-replicators explanation than the adaptations part that is evolution-proper. You state that we should still teach the former as part of the explanation and indeed that the different-surenesses don't matter to this conversation. I agree with only the former statement; by all means let's teach "amino acid soup+lightning" as our first-replicators best explanation, but if in doing so we don't acknowledge that we're *less sure* of it than of evolution (or, "less sure of this part of evolution" if you like), we leave ourselves open to the obvious line of attack: "You're presenting a theory as fact when even you acknowledge it's far from certain that it's true!"

I'm concerned with staving off that line of attack which is why I'd say, let's divorce the "evolution" part from the "origins" part. Evolution does not stand or fall with the origins explanation: it is true (indeed, quite obvious) whatever origins explanation is correct, or even if you select some *wrong* origins explanation. The theory of origins thought to go along with evolution, meanwhile, can (and should) be taught as a best-explanation we're relatively less sure about.

Yes all science consists of best-explanations that need never be "final", but that doesn't mean science hides the relative status of its various explanations from observers, does it? (Even if those observers are behaving in a misguided, unscientific and reactionary way - as creationists are.)

It seems to me that if you insist that "amino acid soup + lightning" (or whatever) is part of The Theory Of Evolution, it becomes one of the main chinks in its armor, and then if you still stand there and insist that "all of evolution is true, there can be no doubt!" you're, like I said, overplaying your hand. Since it's nonessential, and has a lower-certainty-value, why not split it off and call it a Theory Of Origins?

The Theory Of Evolution is obvious and true. The most-often-pushed Theory Of Origins to go with it, is certainly a reasonable

explanation (and made far more plausible because of the facts of

Evolution) but is far less obviously true. Am I wrong?

by Blixa on Sun, 02/13/2005 - 16:18 | **reply**

Re: 2 Theories

We do not “insist that "amino acid soup + lightning" (or whatever) is part of The Theory Of Evolution”. We do say that life began as the theory of evolution says it did, when replicators formed out of non-replicating molecules according to the laws of chemistry and without any intelligent design being involved.

by **Editor** on Wed, 02/16/2005 - 17:21 | **reply**

Does "the theory of evolution

Does "the theory of evolution" say anything one way or another about how life began? My position, as you surely understood despite however poorly I may have phrased it, is No. Evolution, as it is usually stated and presented, actually explains how life... well... *evolved*, not how it "began". For that you need a theory of origins to go along with it.

If you insist I'm happy to go with your preferred formulation of "the theory of evolution" that is meant to encompass both, however. In that case, what is that theory's explanation for how "replicators formed out of non-replicating molecules"? It appears to be: they did so in some way, according to the laws of chemistry.

Is that really an "explanation"? It's practically begging the question. At the very least does it not raise a host of additional questions? Can/has this chemical replicators-from-non-replicators process be replicated? (Honestly curious, actually... come to think of it I don't actually know.) If not, why then and not now? Why does it not continually take place?

In other words, the origins-explanation is a weak link in your theory of evolution. Some gaps need to be filled in to that part of the explanation.

This doesn't mean "God" is in those gaps by any means :-) But nevertheless the existence and relative size of the gaps (with respect to the *rest* of the theory, which is quite well established!) should be explicitly acknowledged whenever that theory is presented. A stubborn refusal to do so looks, to me, like a counter-reaction to the reactionaries. And not only that, it's tactically unwise because it damages attempts to defend the remainder of the theory (which again, is quite sound).

P.S. I hate this because it makes me sound like some creationist and that's totally not what I'm about here.

by Blixa on Wed, 02/16/2005 - 21:09 | **reply**

Just illustrating my point....

Is this a Scientific Explanation?

Q: How did all the stars and planets form?

A: They formed from matter, according to the laws of physics.

by Blixa on Wed, 02/16/2005 - 21:17 | **reply**

Just illustrating

The two cases, though faintly analogous, are very different in a

relevant way. The theory of evolution was invented to solve a problem, the problem of Design, as epitomised in the Argument from Design, namely, how could the adaptations of living organisms come into existence without design. (See William Paley's brilliant version of the Argument from Design, which Darwin refuted with his theory.) A proposed mechanism that started from designed precursors would not solve that problem. Hence the Theory of Evolution has to include the assertion that the first replicators formed, without design, from un-designed precursors.

There is no equivalent problem in the case of star formation.

Moreover the 'origin' process does constitute perfectly ordinary Darwinian evolution under the standard definition, because those first replicators were formed by variation, followed by natural selection, starting with a population of non-replicator precursors.

by **David Deutsch** on Thu, 02/17/2005 - 00:12 | **reply**

violent agreement

Hence the Theory of Evolution has to include the assertion that the first replicators formed, without design, from un-designed precursors.

Fair enough. And, in your preferred version of it, it does indeed include that assertion. I even believe that assertion.

However, its explanation of how this actually happened - of *how* the first replicators formed, without design, from un-designed precursors - remains somewhat lacking. Details can, and no doubt will, be filled in to make that explanation more satisfying. At present it is not, not very.

That's all I'm saying.

That, and the fact that this should be acknowledged, explicitly, when presenting the theory of evolution to someone. It is a property of the theory of evolution, at present, that its explanation of origins is relatively un-fleshed-out. Is it not?

those first replicators were formed by variation, followed by natural selection, starting with a population of non-replicator precursors.

Probably. And I see what you're saying about that explanation - pending a filling in of the details - fitting into the rubric of evolution-proper, i.e. variation & change. It's not clear, at present, how exactly this part of evolution happened, however. At least, it's far, far less clear than how the remainder of evolution happened, which is rather obvious and ought to be completely uncontroversial.

The origin explanation is currently the weakest link in the theory of evolution, in other words. And if you simply acknowledge that, you instantaneously and effortlessly defuse any attacks on "evolution" *overall* that are based solely on pointing to that weak link. By emphasizing that different aspects of evolution are established to different degrees (or adopting my preference, and saying that it is *two* theories, "evolution" and "origins"), you prevent people from being able to use evolution's weak link against it. Which is my only aim here.

Is this really not making sense or what?

by Blixa on Thu, 02/17/2005 - 20:15 | **reply**

Weak link?

Before the discovery of DNA, it was not known what specific

chemicals are the 'genes' that evolution theory refers to. Nor, therefore, was it known what specific chemical reactions correspond to the processes 'replication' or 'variation'. Nevertheless, there was, at that time, no weakness in the theory that random variation and natural selection have given rise to all adaptations in nature. In particular, at that time, there was no weakness in the theory that they gave rise to the earliest (?) adaptation, replication.

There still isn't. Discovering more details about one part of the story but not another has not introduced any weakness into our explanation of the latter.

by **David Deutsch** on Thu, 02/17/2005 - 22:57 | **reply**

well, I can only say I disagree

It seems to me that (unless you've changed the definition of "weakness" from the one I was clearly using), there's weakness in a theory precisely when, and to whatever extent, that theory's various explanations are incomplete - or "sketchy" or "rickety" (which is almost a synonym of "weak"), as someone put it earlier in this thread. If explanations being sketchy and rickety doesn't connote weakness what does? If you disallow the word weakness to refer to explanations that are by your own admission rickety, I'm happy to oblige but what word shall I use instead?

So, it seems to me that before the discovery of DNA, the theory of evolution was indeed weaker than it is now. To put it another way, the discovery of DNA helped to make the theory of evolution stronger (=less weak). I doubt you would even actually disagree with that outside of the context of the current conversation (i.e. if I had asked you out of the blue, "did discovery of DNA help bolster evolution?" - well, quick, what would you have said?).

So I'm honestly not sure why you're arguing at this point.

And although it was an attempt to refute a complete 180-degree misrepresentation of my position, obviously you are correct to say that discovering more details about one part of the story but not another has not introduced any weakness into our explanation of the latter. What it has done, instead, is *strengthened* the former part of the story while leaving the latter part in its extant - and, now, relatively quite weak by comparison - state.

Which is precisely what I've been saying this whole time, without being understood evidently. Best,

by a reader on Fri, 02/18/2005 - 00:35 | **reply**

Not a good way to defend science

Blixa
what you are proposing- emphasizing the "strong" part of evolution theory to convince people of "that part"'s correctness, if I have understood you right- is not necessarily a good method for defending scientific theories. You would only be conceding to some of their irrational demands.

First because it is in the nature of science to have loopholes in its explanation at any given time. Solving one problem always creats more problems and more unanswered questions.
Science and reliable scientific theories are defendable because no matter what their "weaknesses" are at any given time, the less successful theories are, well, less successful and/or wrong and the non-scientific "solutions" are nonsense and no real explanations at all.

Your "weakness" criterion is not really suitable, because that kind of

"strength" that you are indirectly implying is never to be found in science. By adopting this approach you would be legitimising the demand for such "strength" in scientific theories before they are "good enough" to be "believed" or adopted and that is precisely what should be avoided.

The controversy about evolution is hot because of a deeper controversy: That of denying the legitimacy of science and of superiority of the worldview that is based on it to all others based on dogma (religious or otherwise, say communist for example). This is what the religious people, among others, have been pushing for all along.
The only reason they focus on Evolution is because they think it concerns an issue that their dogma is too specific about and hence can't be pushed under the rug as easily as they had managed to do about Physics and astronomy.

Evolution comes with its explanation of what the origin of life must have been like-ie what type of mechanisms "could" have been involved. That that part has still "more" unanswered questions changes nothing. If we are to apply "weakness" to it as a result of that, the rest of the theory would be as weak and attackable.

I'm pretty sure the "creationists" would embrace Evolution if they can have that "origin" part cloudy enough for them to insert their "intelliegnt design" in. Exactly the same way they embraced the Big Bang theory and thus the "rest of" cosmology and physics that led us to it, once they realized they could hide their dogma in the "initial conditions" or the "moment of creation". Their real folly would still remain unchallenged...well, actually we would be worse off because it would give them more room to maneuver. They can boast even more than they do now that they have no problem with "real science" since they only disagree with the "weak" and "problematic" parts which are
"still debatable".

Science comes with its unresolved problems and its strength and validity is independent of the fact that (even more) questions remain unanswered. It should be accepted the way it is with all the logical consequences of a worldview that is based on it.

by AIS on Fri, 02/18/2005 - 04:29 | **reply**

AIS, I have long since pas

AIS,

I have long since passed the point of becoming repetitive so all I can say is you've said nothing that's new or changes the point I've been making. Yes it's the nature of science to have holes or gaps in its explanations. Yes it should be accepted that way and failure to do so is failure to understand what science is about (and this should be explained, which David is good at doing). And yes, The Religious People are resistant to science for essentially the reasons you characterize, and yes they are factually wrong.

But it's striking how *defensive*, even insecure, you sound about science when you say things like "If we are to apply "weakness" to [origins explanation] as a result of that, the rest of the theory would be as weak and attackable."

It would? be "attackable"? I totally disagree.

You, on the other hand, (ironically) evidently don't have confidence in the theory of evolution to stand up against illogical attacks based on irrelevantly pointing at gaps in the margin. If we give an inch,

they'll take a mile, eh? We must circle the wagons around science

against these attacks from The Religious People! Show them no weakness!!

This attitude is precisely what I mean to say is reactionary and unhelpful. When there's no question but that the origins explanation is rickety and yet you (apparently) insist we not acknowledge this, it's difficult for me to distinguish that from the attitude of a religious person who refuses to acknowledge that the Bible's creation story is rickety. It may be a difference of degree but not kind.

Moreover, it's difficult to recognize the fear "we would be worse off because it would give them more room to maneuver" as a valid concern of science or someone who's intellectually honest about presenting science's best-explanations.

They can boast even more than they do now that they have no problem with "real science" since they only disagree with the "weak" and "problematic" parts which are "still debatable".

Perhaps they can, and would. Yes they would cling to that gap. Which will, at some time or another, become ever smaller. So what? Let them. Science is unharmed by this. Moreover, the smaller the gaps get, the more difficult it becomes to mythologize them, and so the ranks of The Religious People Who Resist Science will be naturally lessened, over time (though evidently not soon enough for you). In the meantime we would have always presented science's explanations honestly and sincerely - which includes acknowledging where details are sketchy, *so that scientists know what must be filled in* by the way - and let the chips fall where they may.

But in all honesty it appears to me that you, and to some extent David, are primarily concerned with culture-war here, not science.

by blixa on Fri, 02/18/2005 - 19:06 | **reply**

What do you mean by bolster?

"did discovery of DNA help bolster evolution?"

Depends what you mean by "bolster" here. The discovery of DNA did not make the theory of evolution "truer". Nor did it increase the probability that evolution is true (like any theory, evolution is either true or false).

by a reader on Fri, 02/18/2005 - 22:29 | **reply**

insecure?

No where did I say anything about "hiding" the existence of unresolved problems in any theory! What I said was simply that they are always part and parcel of scientific theories and stressing them in such a debate has no bearence on what the real issue is. I don't see how that amounts to being dishonest in presenting science, or a sign of insecurity for that matter.

What I might be "insecure" about is the way subtle issues like these can be warped and misunderstood as they spread through society and the long term consequences of such accumulated misunderstandings. The creationists are not really important by themselves, for their's has been a lost cause for a long time. The main issue (for me) is missing the forest because of the trees: using the incomplete nature of scientific theories as an excuse to shy away from the consequences of taking them seriously as descriptions of reality-as David has argued admirably in his book. I think one of the historical reasons for this resistance has been the

efforts of older, once prevalent religious dogmas to "tame" science

and keep it out of certain "sensitive" regions (once they realised they couldn't stop it completely) and that this played (and still plays) a part in what has brought about the general popular cynicism and the worrisome weakening of realist philosophy today,common among an ever growing number of people who are no longer able to believe in those outdated religious dogmas either. The view of science as a "useful myth" good as a book keeping scheme is quite widespread today and although it might seem farfetched, I believe this in its own turn has been a contributing factor to the rise and popularity of all the distrust in the foundations of modern Western civilisation (that comes in different forms like multiculturism or post-modernism, moral relativism...and even Islamism). They are arguably more harmful than the older archaic dogmas of naive faith.

That for the time being science is going forward at this rate, seemingly unharmed by such things, is partly due to the impetus acquired through centuries of struggle by people who were "insecure" enough to wage "cultural wars" - head on - to defend science as a source of real knowledge and as an alternative to dogma.
Why should that struggle be abandoned now?

by AIS on Sat, 02/19/2005 - 01:39 | **reply**

Serious Mental Illness is Biologically Based

There is abundant evidence of brain disease causing what is defined as "mental illness." Individuals with strokes in various parts of their brains can behave in unusual but often somewhat predictable ways, and these individuals are said to be mentally ill according to common psychiatric nomenclature.

Bipolar illness is far more genetically based than most forms of heart disease, cancer, diabetes or hypertension; involves demonstrable brain changes and quite predictable overall behavioral changes; and is certainly defined as a "mental illness" by psychiatrists.

Those with major depression after a myocardial infarction are 3-5 times more likely to suffer morbidity and mortality 6 months after their event than their non-depressed peers, and this difference is not accounted for by more severe heart disease in those with depression. Indeed, major depression after MI, in many studies, predicts cardiovascular morbidity and mortality as well as or usually better than more common predictors of future vascular injury, including smoking, hypertension, diabetes, hypercholesterolemia, etc.

In unmedicated identical twins, one of whom has schizophrenia, there are often obvious visually accessible brain changes indicative of neurodegenerative and neurodevelopmental damage. Brains, like other organs, evolve in time.

Huh? Serious mental illness with no underlying brain disease?

There is more rational and scientific basis to believe in ghosts, pyramid power, ESP, and rhino horns as aphrodesiacs, than to doubt hundreds of thousands of studies, many accessible even to a lay audience, showing the ways in which serious mental illness is caused by complicated, often genetically mediated, neurodevelopmental and neurodegenerative processes gone awry.

Nowadays, failing to recognize this, even if ignorance is the reason for the oversight,in a forum where scientists, philosophers, and apparently pseudoscientists commingle, is nearly as provocative as

denying the Holocaust or denying that slavery occured. Yes, this

stupidity injures the mentally ill and causes discrimination and hardship.

Believing that mental illness in a person is "intelligently designed" by its owner is rather ironic, in an article critisizing intelligent design in evolutionary theory.

by Michael on Wed, 02/23/2005 - 04:09 | **reply**

Diseases of the mind

Michael, I don't think that **The World** denies that there are brain diseases and that these diseases can have a profound affect on behaviour. **The World** is arguing against the concept of mental illness, i.e., diseases of the mind. Such "diseases" do not have a physical cluster of symptoms, but are identified by behaviour e.g., Attention Deficit Hyperactivity Disorder, Depression, and (yes) Schizophrenia. Minds cannot be infected with diseases because the mind is not material.

by a reader on Wed, 02/23/2005 - 10:03 | **reply**

Causation (Was: Serious Mental Illness is Biologically Based)

There is abundant evidence of brain disease causing what is defined as "mental illness"

The concept of causation is tricky even in the physical sciences. David Hume, for instance, denied that there can be such a thing as *evidence of causation*. He was wrong about that (because he was wrong about what evidence is), and indeed the existence of causation is essential to every scientific explanation. But it is tricky to define, and trickier to pin down *evidence* of causation. When it comes to explanations of anything involving human opinions and decisions, it becomes even trickier, but is equally essential. I think that some of the more vitriolic and long-lasting debates in the study of human behaviour – including the nature/nurture debates about IQ and about mental illness – are caused either by entrenched, rival conceptions of causality or by confused or inadequate conceptions.

Let me give two simple examples and then ask a question.

Let's define a cause as a factor with the property that if it had been different, the effect in question would not have happened (or, perhaps, would have been less likely). I think this is the common core of all definitions of causation. You mentioned the Holocaust. There are many levels at which one could address the issue of what caused it. According to my definition above, Hitler caused the Holocaust by ordering it: had he given different orders, it would not have happened. However, by the same definition, many other factors also caused it: the propensity of the German people to condone such orders is one of them. So is the propensity of the German political system a few years earlier to bring a tyrant to power.

That all makes sense, but unfortunately, according to the above definition, it is just as true that the Holocaust was 'caused' by the attributes of the victims – particularly by the fact that they were Jews, Gypsies, etc., for if any of them had lacked those attributes, they would almost certainly have survived. If a reputable historian were to insist on using that definition, and to publish studies of the 'causes' of historical events in that sense, you can imagine what legions of bad people, and bad journalists, would immediately and forever afterwards seize on the fact that "studies have shown" that the Jews themselves caused the Holocaust. So that definition of causation is inadequate – and highly misleading as it stands – for

use in an explanation of the cause of the Holocaust.

For the same reason, if we use that definition of causation in the study of the genetic origin of any other human behaviour, we shall make equally massive mistakes. For example, we would easily conduct a scientific study and find overwhelming evidence that lynchings of black people were caused by the black people's own genes.

Now I come to my question: when you say that there is abundant evidence of brain disease causing what is defined as "mental illness", what do you mean by "causing"? Do you mean that there is evidence that if certain brain lesions detected in the victims of, say, schizophrenia, had been absent, then the victims would not have displayed schizophrenic behaviour? (I.e. the same level of evidence as that which indicates that black people's genes were a cause of lynchings or Jewish genes were a cause of the Holocaust.) Or do you mean something more?

by **David Deutsch** on Wed, 02/23/2005 - 11:56 | **reply**

Best Explanation?

David,

I think we are comfortable about denying the role of the victims' genes in lynchings or the Holocaust as causes because we have better explanations that account for the observed genetic correlations as being non-causal factors in the explanations.

Do you have a better explanation for "mental illnesses" that correlate highly with physical brain abnormalities, that accounts for these abnormalities in a non-causal role?

If you don't, on what basis should one reject what seems to be the best explanation available?

Gil

by **Gil** on Wed, 02/23/2005 - 20:40 | **reply**

What brain abnormalities?

Gil,

I categorically dispute that there are well-established correlations between physical brain abnormalities and "mental illnesses" such a depression, schizophrenia or bipolar disorder.

All that is well established is that: 1) a lot of people have published papers claiming to have found such correlations, and that the later discoveries of such correlations tend to correlate poorly with the earlier discoveries; and 2) none of these discoveries have led to effective predictive tests (or even reliable diagnostic tests) for the "mental illnesses" they are supposed to correlate with.

by KW on Wed, 02/23/2005 - 22:41 | **reply**

Re: Best Explanation?

But in the examples I gave, the genes are not just non-causal factors and the observed effects are not merely correlations. The genes in question are perfectly genuine, overwhelmingly significant, *causes* of the given effects. But only in one sense, not in another.

I don't want to argue for my favoured explanation here. Only that scientific observations should not be cited as evidence for something they are not evidence of.

by **David Deutsch** on Wed, 02/23/2005 - 23:00 | **reply**

OK

KW and David,

I'm not disputing anything you have written.

I was just playing Devil's Advocate, and wondering if there have been observations that require explanation when formulating our best theories on the issues.

Gil

by **Gil** on Thu, 02/24/2005 - 00:56 | **reply**

Schizophrenia: there ARE correlations with genes

There's no diagnostic test, there's no method of treatment, there's no known biological mechanism, but there *are* correlations between some identified genes and the *risk* of schizophrenia.

This is what the director of the NIH said recently:

"Today, we lack a diagnostic test or a strategy for preventing schizophrenia. This situation is similar to cardiovascular disease 30 years ago in that we see schizophrenic patients only after their first episode equivalent to a "heart attack," and we do not have the equivalent of cholesterol level as an identifiable risk factor.

However, what we have done recently — and what holds great promise for those who are suffering — is identify 12 genes associated with risk. Our challenge now is to move from the discovery of those genes-most of which have no known function-to understanding the role these genes play in the onset and progression of this brain disease-and doing something about it.

Our hope is to use these genes to identify what is abnormal in the brains of schizophrenics, identify it early and thus provide the psychiatric diagnostic equivalent of serum cholesterol level. To accomplish this, we must study the protein products of these genes by using molecular tools that can make their function transparent."

by a reader on Thu, 02/24/2005 - 18:09 | **reply**

Only twelve?

How can there be only twelve genes known to be [statistically] associated with increased risk of schizophrenia? Since schizophrenia is **more common in males**, every gene on the Y chromosome must have this property.

That encyclopaedia article also contains some interesting information about the large differences in schizophrenia rates, and in the frequencies of the various symptoms of schizophrenia, in different countries.

by **David Deutsch** on Fri, 02/25/2005 - 00:19 | **reply**

The putative genetics of schizophrenia

what we have done recently ... is identify 12 genes associated with risk [of schizophrenia]

I'll start taking such claims seriously when this "associated risk" is demonstrated in a methodologically sound **prospective study** based on prenatal or neonatal genetic sampling.

by KW on Fri, 02/25/2005 - 01:21 | **reply**

Lynching Mental Illness and the Mentally Ill

In discussing lynching, David Deutsch says,
"But in the examples I gave, the genes are not just non-causal factors and the observed effects are not merely correlations. The genes in question are perfectly genuine, overwhelmingly significant, causes of the given effects. But only in one sense, not in another." Yes David, there is a difference between necessary and necessary and sufficient. And yes, some "causes" seem more important than others.

Thank you for clarifying that.

Genes are (for the most part) necessary for the formation of brains and hearts; and necessary for the evolution of diseases and people. Yes, genes are important, even necessary, but they are not necessary and sufficient for the evolution of people and their parts. You need the protoplasm stuff … and gravity and plants and food and a few other things, too –- even atoms and electrons help! Yes, the more you think about it, causation is a complicated concept when it comes to explaining things!

And yes , black people have a skin color which causes certain deranged white people to want to act very badly to those possessing this characteristic. And yes genes, in a causal chain, "cause" individuals to have a tendency to have black skin; so in a twisted sense, genes coding for the development of black skin can cause evil people to manifest their hostilities.

The only thing I can't figure out is how this discussion of causality has anything at all to do with whether brain pathology causes serious mental illness?

Most people and virtually all physicians are comfortable with the concept that diabetes is a cause of heart disease. But if one doesn't believe that diabetes causes heart disease, because diabetes is neither completely necessary nor completely sufficient to cause heart disease, then the discussion is effectively over. If one believes that only something that is completely necessary and completely sufficient can be said to "cause" something else in medicine, then one can say that there are no "causes" in medicine at all! There is literally nothing in medicine which causes anything so completely. So yes, if diabetes does not cause heart disease, then brain disease does not cause mental illness. But this argument is trivial.

David, you were discussing lynchings and the causes of the Holocaust to make the point that nothing in medicine can be said to completely cause something else? So Hitler was not the only cause of the Holocaust, smoking is not the only cause of cancer, major depression is not the exclusive cause of worsening heart disease, and brain disease is not the only cause of mental illness? With respect, it's rather obvious that any given phenomenon in medicine (and life) has multiple causes. Don't you think? Perhaps your point is different. Perhaps you think brain disease is not an important or relevant cause of mental illness, while diabetes is an important cause of heart disease. If so, on what basis do you choose to make this distinction? Your "prejudice" should be explicitly stated.

But if you believe that diabetes is a relevant cause of heart disease, then you can also logically believe that brain disease is a relevant cause of mental illness, just as major depression is a relevant cause of heart disease progression (But none of these causes are "necessary and sufficient!").

So the issue, then, is not really causality, the issue is evidence!

When Dr. Lieberman scans the brains of individuals with schizophrenia suffering their first psychotic break, in a double-blind experiment, and randomizes half to an ineffective treatment and half to an effective treatment, then watches the brains of the ineffectively treated shrink by 12 cc's in 12 weeks; few but the most stubborn and simplistic philosophers would logically doubt that schizophrenia is a horribly destructive brain disease. When the head of the NIH says a first episode psychotic break damages the brain in the same (logical) way that a heart-attack damages the heart, he is referring to precisely this type of evidence. When these same patients with schizophrenia are followed for two years and their brains are (partially) protected by a medication and don't shrink, and when in fact there is prelimianry evidence of neural regeneration, that is cause for hope.

Now, if we had known who was going to develop a first-episode psychotic break, and had premedicated them with this same medication, before their first full psychotic period; that is if we had medicated them during the "prodromal period", would this intervention have completely prevented the subsequent brain damage?

That is a question worth asking. It is a good question, because a scientifically valid answer to it could prevent hardship, pain, and loss of life.

By the way, 12 cc's is quite visible and Dr. Lieberman has created movie-like 3- dimensional images of the shrinking brains using serial brain scanning…..quite frightening since the changes are so easily and dramatically seen.

As for the reader who said the following,. "**The World** is arguing against the concept of mental illness, i.e., diseases of the mind. Such "diseases" do not have a physical cluster of symptoms, but are identified by behaviour e.g., Attention Deficit Hyperactivity Disorder, Depression, and (yes) Schizophrenia. Minds cannot be infected with diseases because the mind is not material."

To my way of thinking, the concept of "material" may be a little less "physical" than you think and "mind" may be a bit more. But I am not going to be able to change your world-view. Your dualistic philosophy is apparently assumed and therefore not a scientific proposition. Let me just point out the odd logical conclusions of your stance.

One hundred years ago, grand-mal seizures were described as tonic then clonic contractions of the limbs, with lack of speaking, much drooling, and frequent incontinence. (Yes, ALL of these "symptoms" are "just" BEHAVIORS)

And one hundred years ago there were those, just like some of the readership of **The World**, who claimed that these seizures could not be "diseases" because the condition was not described as a "physical cluster of symptoms" (to quote the critic above), but rather the condition was defined by behavior (tonic clonic movement of limbs and such). Indeed, individuals with seizures were housed in psychiatric facilities (with the rest of the poor souls who didn't have real "diseases".) Yes, ideas do have consequences. Not only were the mentally ill mistreated, so were those with epilepsy!

I also want to point out to my critic above that given your conceptions, grand-mal seizure behaviors, and especially temporal lobe seizure behaviors, until relatively recently, were not thought of as manifestations of brain disease. Rather they were thought to be manifestations of decisions made by individuals or of an invasion of evil spirits into the body. Amazing how this "cluster" of "behaviors"

became a disease in a few short years!! Between you and me, I bet grand mal epilepsy was a "disease" 100 years ago, just as it is today. What do you think?

Our minds allow us to organize events on various scales. We can look at the movement of muscle fiber in an arm on a molecular level (carbon compounds interacting with carbon compounds) we can look at the firing of neurons as they innervate an arm muscle (the physical "symptom" level, or we can watch the whole arm move as a consequence of its neuromuscular innervations.(i.e. we can watch the arms behavior) I'm not sure that one level is philisophically or scientifically superior to the other. We stimulate the occipital lobe of the brain, the person reports seeing colors. We stimulate the temporal lobes at key places, the person reports hearing things. We stimulate the motor cortex and limbs move. By any logical conception, stimulating the brain caused these BEHAVIORS, although as yet the mechanisms are not fully understood.

Would it not be odd if the brain (but no other organ in the body) could not malfunction and so cause inappropriate activation of particular brain areas, such that the initial visible manifestation of this brain malfunction was an observable "cluster of behaviors". Just as diabetes (by as yet not completely known mechanisms) causes deterioration in those with coronary artery disease, brain malfunction (by as yet not completely known mechanisms) causes deterioration in behavior.

What very obvious "symptoms" would a malfunctioning brain present with, if not abnormal clusters of unusual behaviors, otherwise known as "mental illnesses"? The brain is the organ of behavior, so when it malfunctions in "mental illness", the symptom clusters presented are behavioral in origin. To not believe in the existence of mental illness, one either has to believe that the brain cannot malfunction, or that the brain is not the organ of behavior!

And to my other critic (!?)
"There's no diagnostic test (yea, basically correct)

"There's no method of treatment"

…..No, that's quite wrong. I would invite you (or anyone with good intentions) to come to the psychiatric hospital and witness dramatic and often remarkable changes in many (but not all) patients with schizophrenia and other mental illnesses, once treated. It would not take more than a few months of observation, and your preconceptions would just evaporate. It's one thing to engage in fun philisophical speculation, and another to see things with your own eyes. …I told some of my patients and their family members about the remarkable conversations taking place on this web site. They gave me a quizzical look and then uniformly laughed (a gentle laugh) I think many writing for this web site could learn a lot from the mentally ill!

"There's no known biological mechanism"
…Sort of. There's also no known biological mechanism for most "diseases" including hypertension, diabetes, bipolar disease, etc. Perhaps one could reasonably argue that there are better biological explanations of diabetes than schizophrenia, but we're still not doing so well in fully explaining (let alone defining) most medical illnesses, including diabetes. Unfortunately doctors are better treaters than diagnosticians. Just the way it is right now.

And….
"I'll start taking such claims seriously when this 'associated risk' is

demonstrated in a methodologically sound, prospective study based

on prenatal or neonatal genetic sampling”

To the author K.W., how much money do you have? To my knowledge, such human studies have not been done for most diseases with known genetic precipitants and causes. Do you really believe that specific human genes are not involved in the formation of corneas, because nobody has done a “methodologically sound, prospective study based on prenatal or neonatal genetic sampling” to find the specific genes which code for the proteins that lead to the development of corneas?

Finally, thank you for giving me the opportunity to respond to those commenting on my comments.

Michael

By the way, it is truly an honor to correspond with David Deutsch in one of multiple universes. I’ve loved your writing and your books.

by Michael on Sat, 02/26/2005 - 05:49 | **reply**

Re: Lynching Mental Illness and the Mentally Ill

Michael -

You raised the example of epilepsy as a brain disease that was first identified by its affect on behaviour. You pointed out that this disease was incorrectly classified as mental illness and that this classification led to unfortunate consequences for sufferers of the disease. I don't deny that there are brain diseases, nor that these diseases can affect behaviour, nor that the first indications of a brain disease may be behavioural. I do deny, however, that there is such a thing as mental illness. In the epilepsy example you in fact agree that epilepsy is not a mental illness. Your example is a fine example of the dangers of taking a set of behaviours and attributing them to a mental illness.

The term "mental illness" is an oxymoron. That which is mental cannot become ill. You say that the brain is the organ of behaviour. This is like saying the stomach is the organ of digestion or that the heart is the organ of circulation. But to make this analogy is to miss a crucial difference. People act according to the theories and values they hold to be true. Stomachs and hearts do not. To understand a stomach or heart, physics and biology suffices. To understand behaviour, we need non-physical modes of explanations. For example, George Bush's took the decision to invade Iraq because he believes that defeating certain types of tyranny is the best way to prevent future terrorist attacks. Knowing just the neurochemistry of George Bush's brain would not enable us to figure that out. George Bush's theories and values cannot become ill, or be infected with disease, although he may change some of his theories and values as a result of becoming ill. Now holding certain theories and values may cause distinctive changes to the brain, but we cannot "cure" a person of their theories and values by physically trying to undo the changes. That is to misunderstand how knowledge generation works.

by Erda Rae on Sun, 02/27/2005 - 01:36 | **reply**

Erda want to chat? you left

Erda want to chat? you left no contact info :(AIM curi42 or email curi AT curi.us

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Sun, 02/27/2005 - 01:59 | **reply**

Don't blame Intel for security flaws in Internet Explorer

Michael,

The reason I believe the formation of corneas is genetically determined -- even though there have been no studies to identify the relevant genes -- is the same as why I believe that unexplained perturbations in the orbit of astronomical objects are due to the gravitational effect of unseen companions; namely that the general theory that morphology is genetically determined (and that orbits are gravitationally determined) has no serious rivals.

However when it comes to explaining human behaviour the situation is quite different. The difference is that there exists neither a known explanation for how genes shape human behaviour, nor is there a single unambiguous prospective study showing the existence of a correlation between genetic and behavioural variations, such as "mental illnesses" or non-pathological intellectual or psychological attributes.

Therefore the belief that genes determine human behaviour is predicated entirely on the analogy with biological attributes that are known to be genetically determined (including the behaviour of lower animals). But the validity of this analogy is suspect for the same reason as would be the dogma that because computers are just machines therefore variations in their "behaviour" must be determined by variations in their hardware design.

It is only in the context of this tendentious analogy that the alleged evidence supporting the genetic causation of variations in human behaviour seems at all credible. By the normal standards of science the evidence is astonishingly poor. The fact that the academic community seems oblivious to this state of affairs just shows that we are dealing with a scientistic dogma rather than a scientific theory.

Seen in this light, and pending a good prospective study that demonstrates the existence of a genes-to-human-behaviour correlation, I think scepticism about genetic explanations of human behaviour is entirely justified.

by KW on Wed, 03/02/2005 - 13:58 | **reply**

Genetic Explanation of Cornea Development

Actually the specific and detailed effects of genes on the development of the cornea have been the subject of **a great deal of scientific study**.

by **Editor** on Wed, 03/02/2005 - 15:48 | **reply**

schizophrenia and gender

Deutsch wrote

'How can there be only twelve genes known to be [statistically] associated with increased risk of schizophrenia? Since schizophrenia is more common in males, every gene on the Y chromosome must have this property'.

This is untrue. Schizophrenia is no more common in males. The disease has an equal gender ratio. Males, however, tend to be affected earlier (mean 23yrs vs mean 28yrs) and more severely (i.e. males have a poorer prognosis).

Kieren.

by a reader on Wed, 03/23/2005 - 23:46 | **reply**

Diseases vs. Syndromes

Diabetes (particularly type II), Hypertension, the Coronary Syndrome, Migraine/Tension Headaches, Major Depression, and many other illnesses are all considered "syndromes" because they have multiple causes and multiple effects and their definitions provide information about diseased organs and cells, but are not the diseased parts themselves. The mental illness called Major Depression, for example, is defined by what people say and do. But what people say and do is obviously not the disease itself, because it is the brain that is malfunctioning. Unusual responses of people to questions, however, can provide information about a malfunctioning brain. But recognizing that mental illness is a medical syndrome hardly makes mental illness unique, because most medical "diagnoses" have similar attributes!

For example, elevated fasting blood sugar (defining the diabetes syndrome) is not the disease itself, but rather is a manifestation of deficient cellular capacity to remove sugar from the blood stream, inadequate pancreatic capacity to produce insulin, and multiple known and unknown imbalanced metabolic factors. Often there are unknown mechanisms that cause abnormal metabolism, malfunctioning cells, and an abnormal pancreas; but elevated blood sugar is a final common result of the imbalances. Nonetheless, it is the elevated blood sugar that defines the illness, not the underlying pathophysiology!

Similarly, answers to interview questions define, for example the mental illness Major Depression; but Major Depression is a consequence of abnormal underlying brain physiology, and much of this underlying pathophysiology is still, just as with diabetes, unknown. Major Depression is the syndrome; underlying brain pathology is the disease. ST-T segment changes recorded on the "12-lead EKG" help define the "coronary syndrome", but elevations (or depressions) of ST-T wave segments on a piece of paper are hardly a "disease." When a patient is said to be suffering from a syndrome that is an illness, this illness gives information about a pathophysiological state, but is not the state itself!

Because elevated blood sugar is a consequence of an underlying pathophysiological state, just lowering blood sugar does not prevent all complications of the underlying disease. Insulin lowers blood sugar and helps to treat the abnormal metabolic state, but even those on enough insulin to keep their blood sugar low, still lose kidney function, heart function, and brain function. Elevated fasting blood sugar defines the syndrome called "diabetes," but elevated blood sugar is not the disease itself, or else just lowering the blood sugar would solve all the problems associated with diabetes, and insulin does not.

Another characteristic of syndromes is that their definitions are inherently subjective. Type II Diabetes, Hypertension, Major Depression, Migraine and Tension Headaches, and the Coronary Syndrome are defined by a committee of learned experts sitting in a room! Mental Illnesses are by no means the only "subjectively" defined syndromes.

I know the general public and no doubt some of the readers of "**The World**" wish this were not so, but just because something is subjectively defined, does not mean that the definitions are not clinically useful! The problem is that for much of medical practice, most "illnesses" are in fact subjectively defined entities (called syndromes). Syndromes are useful to know about, even if the underlying pathophysiology of a condition is not completely

understood, because they help physicians to predict other events of consequence (like pain or death) and because their "treatment" often (but not always) reduces the likelihood of the emergence of these events of consequence. Indeed, on a practical and historical level, syndromes will often gain prominence and be more formally recognized, precisely because they help predict other outcomes of consequence. In addition, syndromes often are defined because their treatment will decrease pain or suffering – even if the underlying pathophysiology of the syndrome is barely understood.

"Ahh," a critic could say, but a syndrome like Hypertension is measurable and Major Depression is not. Yes, the diagnosis of hypertension is relatively reliably made by a carefully trained person placing a properly fitting "blood pressure cuff" (sphygmomanometer) on a persons arm and then comparing the systolic and diastolic blood pressure measurements to a table of values defined by a group of experts. If the readings are "too high", according to an expert consensus panel, the patient is defined to have the syndrome, Hypertension. But a skilled clinical interviewer using a "SCID" diagnostic instrument can reliably diagnose Major Depression, also. Asking a series of questions and coding the patients' responses allows this diagnosis to be made. Once again, just like with Hypertension, experts define the mental illness called "Major Depression".

But even if it is granted that both Hypertension and Major Depression can be reliably diagnosed, a proposition that is really not debatable any more because of so much scientific/statistical evidence: Is not Hypertension somehow a more valid diagnosis? Obviously, one doesn't die directly of a subjectively defined syndrome like Hypertension; but do not the consequences of Hypertension predictably lead to terribly outcomes like death from coronary artery obstruction? How does one die from Major Depression?

Perhaps then Hypertension is a real medical illness, but Major Depression is not because of the morbidity that can be predicted after a diagnosis is made. Some individuals could die from suicide, as a consequence of Major Depression, but the act of suicide could arguably be considered more voluntary than developing clogged coronary arteries in someone dying from Hypertension. So perhaps Hypertension is a real illness because it leads to a real and measurable outcome (e.g. death), while Major Depression is not, because it does not seem to lead to any specific outcome that could not also be attributed to individual volition.

But patients with Hypertension certainly do make choices about diet and exercise and these choices do affect the way in which Hypertension changes coronary arteries. So perhaps coronary obstruction from Hypertension (like suicide from Major Depression) results from the voluntary choices of those with Hypertension, after all.

On the other hand, are there not some individuals who die from the consequences of Hypertension, even though they strictly followed dietary and exercise recommendations?"

So Hypertension (would seem) to cause a patient to have less control of his own death than Major Depression, because suicidal behavior in the depressed patient involves a degree of volition, whereas even those who properly eat and exercise could still die from Hypertension. So from this (in my view incorrect) perspective, Hypertension but not Major Depression is a "real illness" because one can predict certain clear-cut outcomes with Hypertension that are potentially independent of the patient's (or other peoples choices.)

So real illnesses like Hypertension, unlike supposedly invented

illnesses like Major Depression, must be reliably diagnosed, there must be clearly measurable deleterious outcomes, and there must be at least some instances of the syndrome in which the individual's choices (and the choices of others) are virtually irrelevant to the ultimately bad outcomes. From this perspective, a real illness or syndrome must have some existence independent of individuals' choices and the choices made by others.

The relevant question then is: Does Major Depression, like Hypertension, also have a "life of its own", independent of the choices of people? If not, then solving the problem of Major Depression and other Mental Illnesses necessitates helping the afflicted to reason more effectively, but does not involve treating a medical syndrome, per se. From this perspective, diagnosing the mental illness Major Depression does nothing more than define a group of individuals who have not been taught to think correctly or solve particular problems very well. Philosophers and logicians, not physicians, should then treat it

Unfortunately for those who "don't believe" in mental illness, the argument that mental illness does not exist because people choose their behavior and speech, though plausible 20 years ago, is no longer valid today. Mental illnesses cause bodily deterioration at least as powerfully as many physical illnesses like Hypertension do. In fact, when the mental illness called Major Depression is compared to the physical illness called Hypertension, in terms of the syndromes' respective power to predict, for example, morbidity and mortality from coronary artery disease: Major Depression has been found to be at least as large and usually a larger risk factor for morbidity and mortality.

And it has been refuted that this association is an artifact caused by those with more severe heart disease calling themselves more "depressed," or those with Major Depression not complying with treatment. (Indeed those with Major Depression seem to have less severe heart disease when they present to the cardiologist complaining of chest pain; their coronary arteries just deteriorate faster).

Explanations are controversial but follow several lines of reasoning. Those with Major Depression tend to have increased cardiovascular reactivity to day-to-day events that individuals experience. These increased physiological responses are known to independently predict morbidity and mortality, possibly by increasing shear stress on vessel walls. This damage to the vessel wall may then lead to faster progression of plaques or increased likelihood that the plaque will burst into the lumen of the vessel. Other reasons include the fact that those with Major Depression have increased platelet aggregation and a greater tendency toward arrhythmias, probably due to increased vascular and neurological reactivity to stressful situations. In addition those with Major Depression (experiencing stress) have a decreased proportion of parasympathetic to sympathetic control of their heart's normal "beat to beat" variability (decreased "heart period" variability), and this is a known risk factor for death as well. In any case, Major Depression predicts progression of coronary artery disease at least as well as Hypertension in most studies in which they have been compared.

So like Hypertension, a committee of experts defines Major Depression, both syndromes are reliably diagnosed from a statistical perspective, and both lead to predictable and obviously negative outcomes (e.g. death). In both, to some extent, these outcomes are independent of the choices and effort of individuals with the illness.

We know that these deleterious cardiovascular outcomes are to

some extent independent of the efforts of individuals with Major Depression, because in one relatively large study involving thousands of patients with coronary artery disease and depression, making the choice to engage in "cognitive behavioral therapy" to treat their depression, DID NOT improve cardiovascular outcomes (ENRICHD). So even when patients work to learn to think more "rationally" (cognitive behavioral therapy) this treatment did not alter the progression of coronary artery disease. On the other hand in the same study, those with the most refractory depressions were allowed to receive SSRI antidepressant medication and morbidity was substantially reduced. In studies by Sauer and others, use of SSRI antidepressants is associated with decreased death rates in smokers, but the reasons for these results are not fully understood and much larger prospective trials are in process. Our group has published and is publishing data showing that SSRI antidepressants effectively decrease blood pressure variance, just as they seem to decrease extreme emotional vacillation during stressful situations in patients with Major Depression. Emotional and physical reactivity to stress in patients with a "unipolar" Major Depression are likely decreased by SSRI antidepressants.

So like Hypertension, Major Depression has a "life of its own" independent of the choices of those afflicted, and in particular Major Depression is at least as large a risk factor for death from progression of coronary artery disease, in studies in which Hypertension and Depression have been compared.

Therefore, the responses of patients to questions about their "mood" enables physicians to diagnose Major Depression. When a patient has this diagnosis, it enables physicians to make statistical predictions about the course of coronary disease and these predictions are at least as powerful as predictions made using a blood pressure cuff.

A syndrome is not a pathophysiological state. A syndrome is a consequence of a pathophysiological state. The field of medicine recognizes "syndromes" because they can help predict events that human beings care about and because "treatment" of syndromes, even when the underlying pathophysiology is not completely understood, reduces human suffering. These distinctions are clearly understood by physicians, and I would think by readers of the World.

Perhaps some readers of the World may consider physicians "sloppy" in their naming of syndromes like Hypertension, the Coronary Artery Syndrome, Migraine Headache, and Major Depression; but physicians and the general public are well aware that answers to questions are not a disease, a systolic blood pressure recording is not a disease, a blood sugar recording is not a disease, and lines on an EKG recording are not a disease; though all can predict disease.

The World is usually very careful to see various phenomena in context. For example when **The World** discusses Israel, it is recognized that Israel is at war and therefore alleged human rights violations are discussed in the context of this war. It is also understood that there are far worse abuses seen in countries around the world and in the Middle East. But most of these far more egregious human rights abuses are never mentioned. It is properly considered irrational to hold Israel to a standard that applies to no other nation. To do so is considered discrimination.

Why then must the World attack the phenomenon of mental illness, when similar attacks are logically as applicable to most other syndromes, indeed most diagnoses in the field of medicine? Do your headaches really not exist just because they are defined by a committee of experts and treated based upon your subjective

reports to your doctor? Should no research money go to treating headache syndromes just because the pathophysiology is not well understood? Anyone who has ever taken a Tylenol for a "Tension" headache understands all too well the reality of the affliction. Why then is it so hard to understand the reality of mental illness syndromes? Are we so solipsistic that we must experience mental illness ourselves before we understand its reality?

by Michael on Sat, 03/26/2005 - 00:07 | **reply**

Cause of "Mental Illness, Schizophrenia"

A new site has proposed a completely different theory for the disorganized thinking a psychotic beliefs we usually call "Mental Illness."

The examples of psychotic episodes associated with Qi Gong, the slow motion martial arts exercise and Kundalini Yoga are used as a model to explain the late adolescence onset of schizophrenia.

A common but little known feature of human physiology, a conflict of physiology related to the vision startle reflex, is known to cause a sudden dissociative/psychotic episode in Knowledge workers. The problem was discovered in the 1950/60's and the Cubicle solved it there.

Qi Gong and Kundalini Yoga demonstrate a 3000-year history for this phenomenon.

It has not occurred to anyone that the problem those designers and engineers discovered is one of physiology not desks, chairs, and repeating detectable movement in a business office.

Visit **http://VisionAndPsychosis.Net**. Start with the Demonstration page and the Everquest Connection. The site is over seven megabytes of text.

by **a reader** on Sun, 05/08/2005 - 01:11 | **reply**

Re: the Cubicle

Chronic Cubicle Syndrome.

by **Editor** on Sun, 05/08/2005 - 01:26 | **reply**

Serious Mental Illness is Hereditary

Professor David Deutsch is a physicist known for his brilliance in interpreting quantum mechanical principles and for his original theortetical ideas on quantum computing. And he apparently has some thought-provoking and interesting views on mental illness, as well.
In my view, his ideas about the mentally ill are quite wrong and even bigoted, but he is wrong in interesting ways, worthy of exploration.

Professor Deutsch, in editorial comments on his "**Setting the World to Rights**" blog, believes that illnesses of the mentally ill are "fake" and that studies demonstrating heritability of mental illness ("behavior") are seriously flawed because of misinterpretations of the concept of heritability. I presume that if Professor Deutsch felt that mental illnesses were meaningfully (technically "directly") heritable, he would change his mind about mental illnesses being "fake". For if genes meaningfully

A. Caused internal pathophysiological abnormalities which

subsequently caused brain damage, behavioral disorders, and reduced capacity for rational thinking, and if

B. These disorders were known to be mostly independent of the choices of the individual afflicted or others, and

C. These mental illnesses caused significant pain and suffering then,

it certainly would be hard to avoid calling these illnesses "real"! I think that is why it is important for those who don't wish to recognize mental illness to argue against hereditary factors as causitive factors in the development of mental illness.

Some play semantic games to disenfranchise those with mental illness. For example a reader of the World Blog writes that the mind cannot be "infected with disease" so mental illnesses don't exist, forgetting, for example, that illnesses of the mind are syndromes, defined by their symptoms. And no syndrome, whether mental or physical can be "infected" with disease. A depressed mood in the syndrome "major depression, cannot be "infected by disease" any more than an elevated fasting blood sugar, in the type 2 diabetes syndrome! Mental illnesses and for example type 2 diabetes are defined by their symptoms but with multiple underlying causes that we don't yet understand. .

And multiple illnesses in medicine must be defined by their symptoms because of incomplete scientific understanding. Syndromes are useful and predictive substitutes for a complete description of a pathophysiological state. The language of "syndromes" creates a terminology amongst professionals that allows for treatment and research into conditions that often have a poorly understood genetic/pathophysiological basis but nonetheless cause pain and suffering and predict the evolution of other diseases and syndromes. Yet the editors don't disenfranchise those with: migraine headaches, "restless legs", chronic obstructive pulmonary disease (COPD), the coronary syndrome, and (as mentioned) type 2 diabetes -- all syndromes defined by their symptoms and not the underlying pathophysiology. Indeed, we understand the underlying causes of very few illnesses in medicine, but should we therefore say that virtually all illnesses in medicine are "fake" and none should be recognized and treated? We are often very good at helping to treat syndromes like type II diabetes and major depression, even if we don't know what causes them.

Some may want to say that mental illnesses are "fake" because there is no (identified at this point) specific "lesions" to point to. But where is the identified "lesion" in type 2 diabetes? [A damaged pancreas is an "effect" of the underlying (mostly unknown) metabolic abnormalities, not the cause!]. The fact that hereditary mental illness is more strongly genetically influenced than most other illnesses treated in medicine, implies that there are internal abnormal gene products causing cellular and neuro-architectural abnormalities i.e. "lesions" if that nomenclature is preferred. And we have certainly identified "lesions" that are the effect of mental illness (damaged hearts and brains, for example) as there are "lesions" that are the effects of other systemic illnesses like diabetes (damaged eyes, kidneys, and pancreas'). So, yes there are "lesions" in hereditary mental illness, as there are lesions in other most other illnesses, both causing and as a consequence of these syndromes.

But for some reason, Professor Deutsch attempts to disenfranchise the mentally ill by claiming that their hereditary mental illnesses could all be "caused…., 100%" by their choices as if other illnesses do not equally (or usually more so) involve "choices".

Responding to a reader who was defending the genetic basis of a

developmental disability (Aspergers's), Professor Deutsch says,

"……..it is perfectly possible for a given behaviour to be 100% caused by "part of the brain not functioning … due to genes … [that] … render a person unable to will themselves out", and yet also to be 100% due to the way other people have behaved towards that person, or 100% due to the person's own choices."

But, it is easier to argue that type II diabetes and/or the most common type of coronary artery disease are "100%" caused by people's choices, than to make a similar argument for hereditary mental illness syndromes like bipolar disease or schizophrenia. After all, we know that coronary artery disease can be at least partially reversed by lifestyle and nutritional choices (Ornish) without use of medications. Similarly, early Type II diabetes can often be eliminated (or more likely delayed) by substantial weight loss and very regular exercise. It is at least arguable (although data is not available) that given these results, if intensive dietary modification and exercise had begun as children, coronary artery disease (if not caused by hereditary dyslipidemias), might be completely avoided in most if not all those who subsequently develop it! If this were true, we could argue that common types of coronary artery disease were "100%" caused by people's choices, despite having a hereditary component. Similar evidence of reversibility has *NOT* been found for those who have developed bipolar illness and schizophrenia. Even those with bipolar disease and schizophrenia who are perfectly compliant with medications, therapy, exercise, nutritional interventions; nonetheless frequently experience relapses, although less frequently than the non-compliant.

Our multiple studies of heritability of mental illness, as well as frequent clinical experience, similarly shows us that even when children are adopted at birth into loving homes surrounded by generations of mentally healthy offspring, those adopted, if genetically related to biological families horribly afflicted by serious mental illness, often develop serious mental illness. This occurs, despite heroic efforts of very concerned parents and family members. And studies also reveal that adopted children from biological families of origin with no hereditary mental illnesses, usually do not develop hereditary mental illness even if adopted into families in which such conditions affect every generation.

Most doctors and scientists agree that hereditary mental illness syndromes are as real as any other syndromes in medicine, and are not waiting for Professor Deutsch's approval to treat patients! In fairness, however, I think Professor Deutsch would honestly acknowledge that his opinions are in the minority, but he would correctly tell us that that does not make him wrong. Nonetheless, when a famous physicist declares mental illness "fake," he implicitly states that literally hundreds of studies cited by the National Institute of Health are fundamentally flawed because of misinterpretation of results. That takes a good bit of chutzpah!

Unfortunately, Professor Deutsch does not say much about his, in my opinion, radical sociological theories that attempt to call mental illnesses "fake" and try to explain away heritability of mental illness as "choice"; but readers of this blog can get a (slightly) better insight into his thinking by reading more of his actual responses in the section "On Fake Diseases", "Science and Superstition", and "Mad vs. Bad," on his "**Setting the World to Rights**" blog, as I cite just a few of his quotes.

And here are a few of Professor Deutsch's direct quotes, to get a feel for his thinking in this area. The responses I quote first are to a letter that I wrote to the "**Setting the World to Rights**" blog when I claimed (I thought modestly!) that bipolar illness is "genetically based" (to my reading of the data 50-90%) and that biological

factors help to create (or cause) certain mental illnesses. The next set of quotes from Professor Deutsch are directed to a different reader.

Professor Deutsch -- "Let's define a cause as a factor with the property that if it had been different, the effect in question would not have happened (or, perhaps, would have been less likely). I think this is the common core of all definitions of causation……
……, but unfortunately, according to the above definition, it is just as true that the Holocaust was 'caused' by the attributes of the victims – particularly by the fact that they were Jews, Gypsies, etc., for if any of them had lacked those attributes, they would almost certainly have survived…….

For the same reason, if we use that definition of causation in the study of the genetic origin of any other human behaviour, we shall make equally massive mistakes. For example, we would (sic) easily conduct a scientific study and find overwhelming evidence that lynchings of black people were caused by the black people's own genes…"
David Deutsch

Or, in a discussion of the causes of a developmental disorder, Aspergers, that Professor Deutsch titles, "Fake Diseases, Empty Explanations", a reader tried to counter Deutsch's unusual arguments against Aspergers by saying,

Reader -- "Given that Asperger Syndrome is much more frequent in monozygotic than fraternal twins, I think many brain doctors would say that it does have a genetic component."

To which Professor Deutsch responded,
Deutsch -- "It's true that they would. It's also true that they invariably become evasive when it is pointed out that by this definition of "have a genetic component", being the victim of racist attacks also "has a genetic component", as does being the beneficiary of favouritism due to one's looks.

The Reader also said,
Reader -- "It seems perfectly conceivable that there is simply a part of the brain that is not functioning, and that this is likely to be due to genes interacting with environment in ways that render a person unable to will themselves out this situation."

To which Professor Deutsch responded (as already noted above)

"……..it is perfectly possible for a given behaviour to be 100% caused by "part of the brain not functioning … due to genes … [that] … render a person unable to will themselves out", and yet also to be 100% due to the way other people have behaved towards that person, or 100% due to the person's own choices.

Therefore, even setting aside the philosophical complexities of the terms "conceivable" and "unable", the idea that a behaviour is "due to genes" has essentially no content in the absence of some theory about what sort of 'interaction with the environment' is deemed to be the mechanism through which the behaviour in question is 'due to genes'."

Professor Deutsch apparently wishes to argue that all of the studies looking at heritability of mental illnesses are completely irrelevant in terms of suggesting that heredity, rather than peoples choices, can help account for the development of complex behavioral disorders. The idea is that choices of people do not (necessarily) diminish just because a behavior has an increased risk of occurrence due to genetic factors. Indeed, to Professor Deutsch, saying that a behavioral syndrome is heritable says nothing about whether the

individual or someone else may have caused the behavior "100%".

This will certainly be a surprising conclusion to most brain scientists, geneticists, and probably to most scientists in general, but I will show later how someone could in fact come to this conclusion, but only in a few very special situations (two of which Professor Deutsch cites above), and virtually no situations that have much to do with serious mental illness. But Professor Deustch is a bright man, and so should not be dismissed, even though I believe most neurobiologists and biobehavioral geneticists would radically disagree with most of his conclusions about mental illness.

According to the National Institute of Health, data from more than 40 family and twin studies over 60 years clearly shows that bipolar illness is heritable. In the twin studies , estimates of concordance in monozygotic ("identical") twins range from 33-90% and in dizygotic ("fraternal twins") just 0-16%. In a large and rigorous study, cited by the NIH, concordance rates were 62% for monozygotic twins and only 8 % for dizygotic twins with a heritability estimate of 59%. However, in another study with the largest number of twins pairs evaluated, heretability of bipolar illness was found to be an astounding 85% (McGuffin P Arch Gen Psych, 2003). This is a figure as high or higher than most other heritable illnesses with polygenetic origins. These figures clearly show that genetic factors dramatically increase the risk of development of bipolar illness.

Observed heritability is less in essential hypertension (the most common type of hypertension), type I diabetes, and death from coronary artery disease. Since bipolar illness is heritable and genes code for proteins, differences in gene frequencies in those with and without bipolar illness imply structural and therefore physiological (likely cellular) differences in those predisposed to bipolar illness. And unlike genetic differences in hair or eye color, the genetic/structural differences in individuals who develop bipolar illness cause remarkable disability. In one of the best studies of brain differences in those with bipolar disorder (Nature, 1997), Drevets showed that those with bipolar disorder have 40% less gray matter volume relative to normal controls. Those with bipolar illness die an average of 9 years earlier than those not afflicted (Hirschfield, 2003).

Unmedicated first episode (first psychotic break) patients with schizophrenia (a 40-50% heritable illness) also show dramatic differences in brain structure relative to normal controls, and we now have sequential brain imaging studies of significant brain degeneration over two years in patients with schizophrenia suffering their first psychotic break, when given suboptimal pharmaco-therapy versus optimal pharmaco-therapy (Lieberman JA, ACNP 2002).

Previous data has shown that the same effective treatment offered to patients with schizophrenia (vs. ineffective treatment or placebo) leads to improvements in multiple measures of cognitive functioning (Wirshing). In other words, modern pharmacological treatment of schizophrenia preserves brain structure and enhances brain functioning (for example cognition) in individuals suffering a first psychotic break, at least over two years.

And for those readers and editors who don't understand the phenomenon of mental illness or the magnitude of the problem, and so prefer to make fun of individuals with schizophrenia (e.g. the "Qi Gong" reader), I would suggest meeting someone suffering with a first psychotic episode. Psychotic/hallucinating individuals often frighten themselves and all concerned, and even those who are making fun of them may learn a touch of compassion when observing someone so tortured by hallucinations and fear. No,

psychotic behavior cannot just be imagined by the disinterested

philosopher or physicist: Learning about the mentally ill, like learning about physics, sometimes requires getting your hands dirty.

Remarkably enough Professor Deutsch singles out mental illness for approbation (amongst all illness with genetically mediated risks) by attempting to theoretically argue against any "genetic" (or even brain state) explanation of abnormal behavior. He claims that seeming genetic causality could also be explained ("100%") by the "choice" of an individual and/or "100%" by the "choice" of another. Professor Deutsch does not explain in detail how, despite obvious evidence to the contrary, "choice" could explain the known evidence for heritability of mental illness, preferring instead to give two examples of poorly interpreted hypothetical studies (that he concocts) to argue that the thousands of existing studies of heritability in bipolar illness and other illnesses could all be misleading.

One hypothetical study involves scientists trying to find the causes of "lynching" of black people, by examining the black person's genes! Another hypothetical study involves trying to find the causes of advancement in society, by examining the genetics of attractive and unattractive people. He uses these examples of the inappropriate use of genetic formulas, as if somehow acknowledging this possibility implies that hundreds of studies calculating hereditary factors in mental illness are all wrong.

Unfortunately, he says so little in his discussion and expects the arguments to be so self-evident that I am forced to try to fill in the details of his own arguments. And of course, as with most phenomena, the "devil is in the details". Once his own examples are explored in more detail, it becomes very obvious that hereditary mental illness has little or nothing to do with his examples!

Professor Deutsch is seriously wrong in a number of ways.

1. Hereditary mental illness is not "chosen". Rather, it restricts choice.

2. There are no "alternative" psychological explanations for hereditary mental illnesses that do not themselves strongly implicate hereditary factors.

3. High heritability estimates cannot be explained away by a radical sociological theory positing that heritable mental illness is actually caused by reaction to a genetically mediated characteristic to which others then respond (like black skin causing lynching). Instead high heritability, in the contemporary meaning of the term, implies genetically caused, internally created, physiological differences between those at risk and not at risk for developing the illness.

4. Mental Illness is hardly unique amongst medical illnesses in being caused by multiple etiologies, and so attempts to isolate the mentally ill, intentionally or unintentionally, promote bigotry.

SEVERE MENTAL ILLNESS IS NOT CHOSEN, IT RESTRICTS CHOICE, WHETHER CAUSED BY HEREDITARY FACTORS OR NOT

After Freud, it was commonly thought that mental illnesses, even schizophrenia and bipolar type illnesses, were caused by people's conscious or unconscious choices. Although this ideology was potentially liberating for individuals with neuroses and milder mental illnesses, because it returned ultimate responsibility to the individual; this view nonetheless added to the stigma already attached to those with serious mental illness. No matter what sick patients chose and no matter what their family members and friends chose, those with severe mental illnesses and their families were, in point of fact, stuck with horrible illnesses and their

consequences

Yet others, fortunate enough not to be so afflicted, could blame those suffering with mental illness for their own circumstances and therefore rationalize their own good fortune, and so feel less obligation to help those in need. In the age of superstition, it used to be that the mentally ill decided to become witches, or chose to "make a deal" with the devil. And now certain libertarians and "freedomists" have created a new kind of superstition, best described as a "totalitarian rationalist" ideology, an ideology that cannot admit that in some situations its tenets don't apply (i.e. can be falsified). In other words, they hypocritically argue that all ideas should be subject to attempts to falsify them, except their own extreme rationalist ideology! So even when patients become frightened by seeing and hearing things that cannot be heard or seen by anyone else, these hallucinations could somehow still be caused by the "choices" of the victims; because patients could have chosen otherwise and not subjected themselves to the frightening visions and torture that they experience. They could have chosen otherwise, because everyone has the potential to be equally rational, and so equally capable of allowing or not allowing mind-altering experiences. (Indeed the belief that everyone is capable of equal rationality defines what I would call "totalitarian rationalism").

So again, the mentally ill can be blamed for their choices, just as witches of old. In today's world, totalitarian rationalists will agree that individuals may have "problems" that need "solutions," but they don't have "mental illnesses" or "diseases", because according to the totalitarian rationalist, each individual can be "100%" responsible for his own mental state! Unlike those with "real disease," caused by impersonal factors like "lesions"; the mentally ill, in effect, choose their own circumstances and so can be held responsible for the consequences of their choice that then leads to what others call "mental illness."

And compassion and resources are often withheld for those who choose their own downfall. For example, those pleading for support for individuals with lung cancer (vastly under-funded relative to other illnesses with similar morbidity and mortality), always remind us that many individuals who get lung cancer never smoked! Just as with mental illness, many don't feel the need to be as compassionate towards those who substantially contributed to their own demise (by for example smoking), relative to those injured by impersonal factors over which the individual has little control. Blaming mental illness on the individual's choices, therefore diminishes the sense of obligation that people feel for the mentally ill, diminishes the money spent on research, and adds additional stigma to a group of people who arguably experience as much irrational hostility as any other large group of people in the world. I think many argue that mental illnesses could be caused by "choices" because they would like to shift blame to the mentally ill, but only Professor Deutsch knows his intentions.

But let us explore in some depth how Professor Deutsch might have come to the conclusion that severe mental illness could be caused by the mentally ill person himself, regardless of heritability estimates to the contrary; though Deutsch never really tells us how he came to his conclusions. We will exclude physical assaults of one person on another, for now.

Even if one person repeatedly chooses to psychologically assault another, in what sense could it be said that the victim caused his own subsequent painful feelings? Perhaps, just as the person expressing the hostility has a choice to express hostility, would not the individual hearing the hostile words have a "choice" whether to ignore the words or not? If giving someone a mental illness is a choice, is not receiving a mental illness also a choice? What a priori

reason do we have to believe that one person's hostile thoughts cannot be blocked by another's more rational thoughts, especially since unfounded hostility directed towards a person and allegedly causing mental illness, should seem irrational to the person hearing the words.

But some individuals may be young or inexperienced in fending off the blatant hostility of others. Even if true, surely these unfortunate individuals without experience could learn to fight back if their brain/mind has the capacity to make rational decisions. And why shouldn't brains/minds have the capacity to learn how to fight back and make rational decisions, despite attempts to teach irrational thinking? After all, those suggesting that genetics need not be involved in explaining mental illness would argue that genes will not make one brain/mind less capable of thinking rationally than another. And if a person becomes mentally ill because he did not fight irrational thoughts or learn the basic principles of combating irrational thinking, then he has, in effect, chosen to allow himself to be harmed and so possibly hastened the development of his own mental illness. Or at any rate some may argue that, and therefore shift blame to the individual with mental illness.

At this point we may wish to ask ourselves why two identical twins, assumed to have rational minds, would both "choose" to be vulnerable to hostility in such a way as to weaken their further ability to think, so when they are further attacked, they are even more sensitive? Perhaps to some reading this, increasingly irrational thought learned from others, coupled with increased vulnerability and sensitivity, may somehow cause severe mental illness, including bipolar disorder. But how can Professor Deutsch, in the absence of biological and genetic influences, say that people would choose such an outcome? We must

1. Conclude that having bipolar illness is a rational choice so people will choose it if offered the opportunity, but then everyone should, too, which does not fit with the evidence, although we will discuss this possibility later.

Or

2. Conclude that certain thoughts, perhaps seductively phrased or presented to the inexperienced, may initially be heard ("chosen" by the individual to be heard) and incorporated in his or her thinking scheme. But perhaps once the initial choice is made, the accepted thoughts permanently decrease the capacity of people to rationally evaluate future thoughts presented to them, perhaps even by physically damaging the brains of those so inflicted. To use a computer analogy, the initial software loaded damages the hardware, and therefore prevents different sorts of corrective software from being loaded in the future. (Like a computer virus attacking the virus scanner, or attacking the hardware responsible for loading updated anti-viral software).

Indeed, something like possibility 2 is possibly what causes some of the brain damage associated with (mostly) non-heritable mental illness like Post-Traumatic Stress Disorder. Humans who experiencing even relatively infrequent and minor episodes of abuse as children show permanent increases in "stress reactivity" (physiological and psychological reactions to stressful situations) for the rest of their lives (Helm, Nemeroff JAMA). Similar results have been found in rigorously controlled studies of primate mothers. For example, heart rate during stress in women abused vs. not abused as children tends to be 4 beats per minute higher during *adulthood*, even in otherwise psychologically healthy women, presumably for the rest of these women's lives. A stress hormone precursor (ACTH) is more than double during stress, presumably also for the rest of these abused women's lives, even when they

exhibit no evidence of any mental illness. Arguably, being more physiologically reactive after early life trauma, could potentially be beneficial in the jungle if life is "brutish and short," and if early trauma predicts later attacks when an adult. But in contemporary Western nations, excess reactivity to stress may inhibit future learning because of its effects on flexible thinking, memory, and because strong reactions to others may cause some to deny such "overly emotional" individuals the opportunity to learn, if their reactions appear inappropriate in some situations. And certainly there are situations in which reacting calmly and with self-discipline, ultimately optimizes chances for success. And stress can permanently damage the brain. After the Sarin gas attacks in Tokyo, those subjects developing Post-Traumatic Stress Disorder exhibited progressive brain shrinkage in areas of the brain previously known to be damaged in individuals experiencing extreme stress.(Yamasu, 2003, Proceed, Natl Acad. Science)

So Professor Deutshe's sense that one need not attribute brain abnormalities, and permanently different physiological/behavioral reactions only to genetic influence, is certainly correct. Unfortunately, as I will demonstrate later, his intuition applies to non-heritable mental illness (like PTSD) much more so than to heritable mental illnesses like bipolar illness or schizophrenia!

But if psychological stress permanently alters brains/minds to make them less able to think rationally in certain situations (i.e. if possibility 2 above is true), why would identical twins have higher rates of concordance than fraternal twins, for hereditary mental illness, allegedly caused by factors like this?

This is where Professor Deutsch's arguments come in. Perhaps there are genes, shared by identical twins, which create some type of innocuous "attribute", say red hair or black skin. Perhaps for some irrational reason, individuals tend to psychologically attack individuals who share this physical characteristic (red hair or black skin) in common. And if one identical twin has a given physical characteristic, the second identical twin is far more likely to have the same given physical characteristic. In effect, wherever they are, both twins bring, not only their "heredity", but because of reaction to a physical characteristic, their "environment" with them as well! If the presence of people with seemingly innocuous characteristics (like red hair or black skin) "causes" others to change their behavior and spew forth their hostile and irrational thoughts, then two identical twins with either red hair or black skin, even if raised apart, are more likely to share the experience of hearing the expressed hostility because of their red hair, and then share the effect of the hostility (the mental illness) in common. Technically, these types of effects are called "indirect heritibility" with "reactive gene-environment correlation". This type of reactive covariance between a physical attribute and an intentional response to it, is not added into genetic variance when calculating heritability. Therefore, contrary to Professor Deutsch, discrimination based on red hair or black skin is (naturally) not considered hereditary, as discussed later! This is one of Professor Deutsch's primary technical misunderstandings of genetic theory.

But let us continue with Deutschian arguments anyway. If black people had a higher incidence of brain damage because of a higher incidence of post-traumatic stress disorder (due to racism), we should not conclude that black people's genes caused the brain damage, even though (very) simplistic statistical models would suggest exactly that. So a cultural phenomenon (racism) could be the logical culprit, even though genes for black skin could superficially seem to be responsible for brain damage.

Perhaps there is something similar going on in mental illness,

Professor Deutsch implicitly suggests, and the candidate genes identified by the National Institute of Health (in individuals with bipolar disease and schizophrenia), might actually be coding for an observable "attribute" or physical characteristic that then causes discrimination – the real culprit. Or so it could be argued.

Deutschian theory that choices could entirely explain seemingly heritable mental illness could proceed as follows, although he is not specific and does not explain his theories, so I have to guess the content of his arguments. Identical twins share some genetically mediated attributes in common (like red hair). This red hair attracts those who like to discriminate ("causes" them to discriminate). And this discrimination then permanently damages the brains of those affected. Once affected, the twins become more susceptible to accepting further hostile and irrational thoughts and the mental illness gets worse. Therefore individuals who develop bipolar disorder (assumed to be caused by accepting "irrational thoughts"), whether twins or not, will either share a common behavior developing before the illness ("prodromal behavior") or will share a visible attribute in common (like red hair). This characteristic attracts the discrimination of others based on the characteristic. And the discrimination causes brain damage, so the irrationality is perpetuated and enhanced by the individual, now with brain damage due to discrimination.

Professor Deutsch talks about African Americans getting lynched. In a very simplistic statistical model, Caucasians predisposed to vicious racism, can be influenced to change their ongoing behavior by the presence of an African American. Some may even lynch the individual appearing before them who happens to be black. So the presence of the African American (and his genes coding for black skin), in a twisted statistical sense, could be said to "cause" the rise in racist fervor that subsequently leads to lynching. Professor Deutsch argues similarly that genes coding for individuals who are perceived to be attractive, in a statistical sense, could be said to cause a social phenomenon like favoritism -- if those who happen to be more attractive are, for example, more likely to advance in society and if attractiveness is genetically mediated.

Professor Deutsch (correctly) wishes us to believe that black skin color, red hair, or unattractiveness are not illnesses even though they are caused by genes, precipitate lynching or mistreatment, lead to pain and suffering, and are heritable. We ought to believe that it is peoples (irrational) reactions to black skin color, red hair, or unattractive people, not the appearance itself, (nor the genes coding for the black skin) that is the root cause of racism or favoritism. Therefore it is argued that heritability studies in mental illness teach us very little about the genetic cause of mental illness, because environmental factors (for example the choice of someone to abuse someone with a given characteristic) could interact with an innocuous genetic factor (e.g. black skin, or some other trait). So even when identical twins share a given disabling mental illness much more frequently than similarly situated fraternal twins, the cause of this disability may still be peoples choices. Or so it is argued.

Deutschian models of mental illness, therefore, resemble sociological models of individuals experiencing racism and then possibly experiencing further injury because of their incomplete ability to cope with the initial racism. But please note that the victim of racism has fewer choices (indeed if lynched, he may be dead). So even (for now) granting Deutschian conceptions that seemingly heritable mental illness does not have to be caused by genetics; even accepting the whole interesting story about there being common physical characteristics or attributes of the mentally

ill to which others respond and neurobiologists don't know about:

Mental illness is still not caused by the "choices" of individuals with mental illness! Mental illness, rather, would be caused by the transmission of thoughts that *take choices away*, even if genetic factors are not involved.

So in what sense can Professor Deutsch argue that seemingly heritable mental illness is caused by the choices of the victim? Even if he wishes to try to maintain the illusion that genes do not substantially contribute to the risk of developing mental illness, in what sense is heritable mental illness potentially caused "100%" by the choices of the victim? This simply makes no sense.

Unless he wishes to argue that having a mental illness is not a disadvantage, as unattractiveness is, and perhaps he thinks mental illness is an advantage (like being attractive!) So perhaps Professor Deutsch believes mental illness adds opportunities for those afflicted, and so they choose amongst increased opportunities, relative to those without mental illness.

Professor Deutsch does not elaborate on how mental illness, despite high heritability, could nonetheless be caused "100%" by the choice of the afflicted individual. Professor Deutsch does use the example of individuals advancing in society because of their good looks, perhaps to argue that good-looking individuals who advance in society are analogous to the mentally ill (??), and in some sense, attractive individuals must still choose to advance, even if their good looks help to pave the way. Although Professor Deutsch does not offer an explanation for why he brings up attractiveness as a trait leading to advancement, I will try to make sense of what he said.

Assume attractiveness is to some extent genetically mediated. If an individual who is attractive happens to be offered more opportunities (more choices) than others equally talented but not as attractive, should we say that the genes coding for the person to be attractive caused the persons advancement? Perhaps. But maybe it was societal favoritism (cultural factors) causing the advancement? Or perhaps it was the attractive person's *choice* to take advantage of the opportunities afforded him?

So, if we were looking for genes in common to high achievers, we might identify certain candidate genes that seem to "cause" individuals to advance. But actually, if the candidate genes code for an attractive appearance, it is cultural favoritism that provides good-looking individuals with more opportunities. Finally, it is the individuals "choice" to take advantage of the opportunities afforded that leads to advancement, though an unthinking statistician might credit the genetics solely. But Professor Deutsch never says how this type of argument could apply to the mentally ill, only that mental illness could be the individuals "choice" (possibly?) in the same way that taking advantage of societal favoritism could be considered an attractive individuals choice.

But for this reasoning to apply to the mentally ill, seemingly heritable mental illness behavior would have to be linked to a gene coding for a physical characteristic or visible attribute that promotes advancement. Perhaps the mentally ill have a certain physical characteristic (say strikingly blue eyes). Because they have strikingly blue eyes, they are assumed to be confident, and so they are offered opportunities to advance more; but the opportunities require that they stay up later at night for periods of time (as if manic) and then later "sleep it off" (as if depressed.) If strikingly blue eyes earns patients reinforcement for acting in this somewhat bipolar way, then individuals with this supposed bipolar disorder could be said *to choose* bipolar behavior over "normal behavior" because it leads to their advancement! But the genes do not

themselves increase the "risk" of someone exhibiting allegedly

bipolar behavior, although they might appear to do so in a simplistic model; but rather the genes code for blue eyes, which then causes others to reward this seemingly bipolar behavior.

But if someone really believes that bipolar disorder grants opportunities, he or she truly does not understand mental illness in the slightest. Individuals with bipolar illness may sleep 4 hours *per week* as if on massive doses of cocaine for 3-4 weeks. But at least those on cocaine "come down" after a day or two. Those with bipolar illness often do not slow down for weeks on end. With pressured speech, racing thoughts, and then paranoid hallucinations, they will feel no need for sleep for weeks, and even a few months. And then, for months on end, they may hibernate, sleeping 17 hours per day and feeling utter despair and depression. Those with bipolar disorder have approximately 2 – 3 times the rate of cerobrovascular, cardiovascular, and endocrine death (Osby, 2001), die an average of 9 years earlier (Hirschfield, 2003), and have nearly 30 times the rate of suicide relative to the non-mentally ill (Angst, F, 2002). Almost everyone with bipolar disorder wishes they did not have it. If Professor Deutsch feels bipolar disorder would grant him opportunities that he would like to choose, he is welcome to use massive doses of cocaine every day for a month until he cries for sleep, only to be afforded his wish a month later, when he will get to sleep 17 hours a day on massive doses of barbiturates for 8 months, only to begin again. Then with a little personal experience, he may be able to better understand the true meaning of "choice", rather than investigate it as a pleasant philosophical discussion in the security of his home or lab. .

Perhaps in believing that the mentally ill "choose" their mental illness ("behavior" to Professor Deutsch), Professor Deutsch instead means that individuals' genes increase risk for certain types of feelings, and then individuals "choose" how to handle these feelings, or place themselves in an environment which helps with that choice (so called "active" gene-environment correlation). For example, most individuals with schizophrenia, experience a degree of paranoia, likely heavily influenced by genetic factors. However the specific events or ideas which frighten those with schizophrenia, do in fact vary between people. Those with past experiences with the American government or who continually read the politics section of an American newspaper may become convinced that the CIA has implanted a transmitter in their ear, and demand to have it surgically removed. In effect, they hear a voice that they believe is absolutely real, often even rapidly turn their head to hear the "voice" more clearly, but seem to confabulate a scenario, in response to the voice that they hear. The confabulation, based on their underlying paranoia, seems to derive from themes from their own past or present, as interpreted through their paranoia, and indeed they will seem to be attracted to a wide variety of "conspiracy" theories and read about them. In this sense, we perceive them to "choose" the themes that are built around their paranoid illness. But the patient absolutely believes the delusions are real and DOES NOT perceive them to be his choices. Telling someone with schizophrenia that he did not really hear voices speaking to him will cause him to believe that YOU are crazy, just as if I spoke to one of the readers of the "World" and then told him that he did not "really" hear my voice. (Activation of parts of the brain interpreting "sound" are identical in those who hear my speech and in those who hallucinate voices, so from the perspective of the individual in either case, both "voices" are absolutely real). In short, we may perceive that the individual chooses the themes to build around his underlying paranoia, but the individual does not perceive he had any hand in his perceptions.

But what can be said about others "choosing" to cause bipolar

illness or schizophrenia in a victim? Is this the cause of bipolar illness? According to Deutschian arguments, saying that bipolar disorder is heritable, says nothing about whether genes really cause bipolar disorder, because a common set of genes between twins could cause them to have a given observable attribute (say red hair). This red hair could cause others to treat these twins badly in a systematic and predictable way. And of course, systematic and predictable mistreatment by others could then cause, equally predictable behavioral responses by the twins. Unthinking doctors could then label such predictable responses "bipolar" illness, for example. Therefore injured twins, mistreated due to red hair, could have similar behavioral responses and brains to each other, but different from others without red hair. Such abuse might cause predictable gray matter loss in brains, loss of cognitive ability, and death an average of 9 years earlier i.e. symptoms seemingly identical to bipolar illness. And so it could be argued that genetically based impersonal illnesses like schizophrenia and bipolar disorder, could actually be caused by the planned choices ("intelligent design") of those who mistreat others. These abusers could injure others because these "others" have a common physical characteristic like red hair or other attribute. Just as racists choose to abuse those with African ancestry because of their skin color, so too could individuals mistreat or inappropriately reward or punish those with red hair, consequently leading to a predictable behavioral syndrome. So even a mental illness that is 59% heritable, like bipolar illness, could nonetheless be caused "100%" by the choices of others, not by specific genetic factors.

I will label these creative ideas of David Deutsch, the "Intelligent Design Identifies Traits that are Observable, Creating Heritable Mental Illness" (IDITO CHeMI). But Professor Deutsch may not be aware that brain changes have been studied when people and animals have been exposed to a variety of rewards and punishments and when people have been exposed to various types of discrimination. In particular, the consequences of episodes of abuse have been studied in great detail. Abuse victims tend to exhibit known and predictable reactions when particular dimensions of behavior are measured and when brain scans are performed. Never have various reinforcement and punishment schemes been found to cause schizophrenia or even bipolar illness, or the neurological changes associated with schizophrenia or bipolar illness. If a vulnerable individual experiences severe enough psychological trauma (e.g. unnatural death of loved ones), the patterns of behavioral response are called "post-traumatic stress" reactions. Sometimes individuals who have been abused develop "depressive" reactions in addition to post-traumatic reactions, or either independently. Although these post-traumatic reactions and depressive reactions do cause structural brain changes, the brain changes in bipolar illness and schizophrenia are remarkably different, even if those with bipolar disease and schizophrenia have also been abused (references available on request). Furthermore, the behavioral syndromes of post-traumatic stress disorder (PTSD) and major depression are also very different from the behavioral syndromes exhibited by those demonstrating manic behavior in bipolar disorder; or those experiencing psychotic episodes, in those with schizophrenia. In addition, the pharmacological treatments of bipolar disease, post-traumatic stress disorder, depression, and schizophrenia are entirely different.

In other words,

a. Mistreatment of others because of a given physical or psychological characteristic (like black skin),
b. Various types of reinforcement and punishment schemes (e.g. the "schizophrenogenic mother"),

c. Discrimination based on unusual behavior, and

d. Discrimination because of religious preference or other psychological characteristics;

have all been studied over decades.

Therefore, individuals who happen to have grown up in situations in which others choose to (verbally) treat them cruelly after birth, do not physiologically, neuroanatomically, psychologically, or pharmacologically exhibit the same characteristics as those with bipolar illness or schizophrenia, (even if those with bipolar disorder and schizophrenia have also been mistreated). Especially in schizophrenia, but likely also in bipolar disorder, psychological abuse of an individual because of a physical, psychological, or behavioral "attribute"; has never been shown to cause the illnesses, despite being repeatedly studied, although stress can make existing psychotic symptoms worse or sometimes can precipitate a first manic or psychotic episode, but in individuals with predisposing risks factors (e.g. family history). On the contrary, hundreds of studies show that consistent abuse causes post-traumatic stress disorder and depressive symptoms, instead.

There are a few rare exceptions to the rule that choices do not seem to cause bipolar disease and schizophrenia. For example, if an individual is hit in the head severely, either because of an accident or the intentional behavior of someone else, such individuals with traumatic brain injury in particular locations can sometimes appear to have bipolar variants or even chronic psychotic variants (like schizophrenia) even when such individuals have no family history and no other seeming risk factors for the development of the illness.

Also, in utero abuse, for example *psychological stress of the mother*, particularly first trimester abuse or deprivation, does appear to lead to increased rates of development of schizophrenia and other brain disorders in the mother's offspring. For example, when the Nazis blockaded ("chose to blockade") Western Holland between 1944-1945, and so caused famine, women who were in their first trimester of pregnancy had more than twice the rate of ultimately hospitalized offspring with schizophrenia (Susser). In addition there is suggestive evidence that marijuana smoking significantly accelerates the development of schizophrenia in those who ultimately develop the illness. Contrary to Professor Deutsch, neurobiologists, psychiatrists, psychologists and others have looked for ways in which people's choices may cause schizophrenia and bipolar disorder, and despite an exhaustive search, there are vanishingly few choices that individuals can make that seem to cause these illnesses. Many studies, on the other hand, have in fact found that different disorders are partially caused by peoples choices (e.g. major depression and PTSD)].

But in general it is impersonal factors, for example, early life viral infections (perhaps in individuals with genetically mediated immune sensitivity) and/or susceptibility to various environmental toxins, lack of oxygen delivery during birth, small gestational size, family history of illness, etc. which are consistently found when looking for potential causative factors in the development of schizophrenia and bipolar illness.

Therefore, Professor Deutsch's theory that a visible "attribute" of all those who ultimately develop mental illness, could lead others to choose to respond to it, and the response to this attribute somehow causes schizophrenia or bipolar illness; does not line up with the evidence in the slightest. If individual choices do substantially cause bipolar illness or schizophrenia, they certainly do so in ways that patients, their doctors, and others don't know about, and so individuals cannot intentionally choose these illnesses.

So on the one hand we have Professor Deutsch's radical sociological

theory of people discriminating or acting differently towards someone because of an observable "attribute", and in treating someone badly somehow generate schizophrenia or bipolar disorder. But there is essentially nothing to support this line of reasoning. Indeed there are countless studies showing that the consequences of discrimination and unusual rewards and punishments are not schizophrenic behavior or bipolar behavior, but rather PTSD symptoms and Depressive symptoms! And on the other hand, there are hundreds of studies pointing to the opposite conclusion, namely that impersonal (not choice related) factors likely precipitate, mediate, and cause bipolar illness and schizophrenia.

GIVING PROFESSOR DEUTSCH A HEROIC BENEFIT OF THE DOUBT

But let us nonetheless give Professor Deutsch a (truly heroic) benefit of the doubt (for a moment) and assume that heritable mental illnesses, like schizophrenia or bipolar illness, can be caused "100%" by intentional behavior directed toward those with an innocuous attribute (like red hair) even if there is essentially no evidence for this. We can ask what the world would look like if Professor Deutsch's remarkable ideas were true.

If Professor Deutsch is correct, in order for the "choices" of an individual who discriminates to be "100%" responsible for the bipolar behavior or schizophrenic behavior of identical twins, there must be a common observable attribute of the twins, to which those who wish to discriminate can consistently "choose" to react to (like red hair). Furthermore, since bipolar disorder and schizophrenia are worldwide illnesses, this characteristic of those with bipolar disorder or schizophrenia must be observable by individuals the world over.

But where is this observable characteristic (like black skin color or red hair) that individuals, the world over, "choose" to react to? If you ask a white racist what causes him to lynch one person rather than another, he can surely tell you that his choice of whom to lynch is made at least partially based on the color of the person's skin whom he wishes to attack. Precisely because the characteristics of victims of racism (and favoritism) are obvious to the person who discriminates, scientists can observe the practice of discrimination. But after thousands of years, and now intense scrutiny over decades, with multiple hypotheses tested and rejected, no scientist can find a stable and easily observed characteristic or "attribute" (like red hair or a behavior) reliably observed and common to all those who ultimately develop bipolar illness or schizophrenia. Schizophrenia and bipolar disorder usually are first diagnosed in young adults.

Concerning possible early behavioral tip-offs of future bipolar illness, for example, "offspring of (two) bipolar I parents *tend to appear well adjusted in early life*, but have significantly higher rates of bipolar I and bipolar II disorders (later in life)" [Kaplan and Sadock, Comprehensive Textbook of Psychiatry] But schizophrenia and bipolar illness are nonetheless reliably diagnosed once the full-blown syndromes have manifested themselves.

But the problem for Professor Deutsch's theory is even worse than scientists' inability to find consistently observable attributes of all or even most individuals prior to their developing schizophrenia and bipolar illness. If Professor Deutsch's "intelligent design" hypothesis of heritable mental illness were true, even though scientists can't find the heritable observable characteristics common to all destined to develop bipolar disease or schizophrenia, non-scientists must (remarkably enough) be able to see them, since they choose to discriminate because of them. They must be able to see them, because one cannot make a "choice" to treat some people consistently differently than others, if one cannot observe the

characteristics distinguishing those to be differently treated from those to be ignored!

Given that there are millions of people in the world who become bipolar or develop schizophrenia and identical twins usually share these disorders far more commonly than fraternal twins (3-8X more commonly!), there must be millions of people who see an observable and heritable physical "attribute" of individuals destined to develop bipolar disease or schizophrenia. This attribute must be substantially different between identical and fraternal twins. People must see this "MARK of the bipolar", for example, *before* the individual becomes bipolar; except for all scientists, for whom this absolutely consistent phenomenon is apparently invisible! Even Professor Deutsch, a scientist and apparent originator (?) of the theory that "Intelligent Design Identifies Traits that are Observable, Creating Heritable Mental Illness" (IDITO CHeMI), has no idea what millions of people the world over must see, according to his very own theory! On the other hand, if he does know what consistent characteristic the millions see and respond to, let him tell us what the characteristic is!

Unlike explanations of heritable mental illness that focus on unseen and impersonal factors like gene products in blood streams and receptors on neurons, (factors that usually cannot be seen with the naked eye) Professor Deutsch's theory presumes the presence of obvious attributes which miraculously appear and disappear depending upon who is looking for them, nonscientist or scientist. Faced with such argument, how could IDITO CHeMI proponents defend their conceptions?

Perhaps as soon as a scientist looks for the "MARK" of the bipolar that others react to, the "MARK" magically disappears before the scientist can see it?! (Like black skin miraculously turning white as soon as a scientist looks at it, but not when the racist looks at it!) Perhaps there is a conspiracy between everyone who can see the "MARK" of the bipolar, and they all decide to hide the truth from all scientists (except for Professor Deutsch who is the only privileged one to have been told about the conspiracy)?

THERE ARE NO "ALTERNATIVE" EXPLANATIONS FOR HEREDITARY MENTAL ILLNESSES THAT DO NOT THEMSELVES STRONGLY IMPLICATE HEREDITARY FACTORS.

Perhaps at this point Professor Deutsch would give in (a little) and try to claim that maybe there are a few relatively innocuous behaviors, in which risk of occurrence is determined by genes, and the general public can then respond to these behaviors. The public response to these genetically mediated behaviors might then cause schizophrenia or bipolar illness.

The problem is that many scientists, but not apparently Professor Deutsch, have been trying to find "prodromal behaviors" for years, since bipolar illness and schizophrenia do not often manifest until early adulthood. It is frightening to know that just 3 months after a first psychotic episode, the brain shrinks approximately 11 cc's (Lieberman, 2002 ACCP), an easily visible amount even to the untrained eye, if whole brain images prior to, during, and after the psychotic break are compared in movie-like succession, as Dr. Lieberman has done. As a point of reference, one can see this type of brain shrinkage after a small stroke, for example.

But we now have medications that (at least over two years) preserve brain function and prevent this neuro-degenerative disease from progressing. (Lieberman, ACCP 2002) It has therefore become of utmost importance to try to identify people at risk of developing serious mental illness, in order to start treatment before

the full illness sets in. (Like treating hypertension before a heart

attack. Indeed the NIH is now using analogous language to describe what happens to brains during a first psychotic break.) The problem is, we are unable to find consistent behavioral characteristics that predict with sensitivity and specificity the ultimate manifestation of the illness, otherwise such individuals would be started on medication. Unfortunately, the prodromal behaviors are either non-existent in some or are far more complex and varied than the illness itself. We can consistently and reliably diagnose the illness, but not the prodromal behaviors that predict the illness!

There is some evidence that some of those destined to develop bipolar disorder as adults will seem to have "ADHD-like" or a "hyperthymic" temperament as children, but in general, even the "offspring of (two) bipolar I parents *tend to appear well adjusted in early life*, but have significantly higher rates of bipolar I and bipolar II disorders (later in life)" [Kaplan and Sadock] Furthermore, virtually all of those with prodromal ADHD-like symptoms or a "hyperthymic" temperament DO NOT develop bipolar disorder, regardless of how people react to these characteristics. Once again, "prodromal" behaviors, do not predict with much sensitivity or specificity the onset of bipolar illness or schizophrenia (though we wish it were so in order to start treatment earlier).

In other words, if someone wants to think that genes increase the risk for development of prodromal behaviors but not the actual illness (because they believe it is people's response to these prodromal "attributes" that cause heritable mental illness), they are then positing the ability of genes to be able to increase the risk for behavior at least as complicated as the actual disease itself! (And they would also believe that non-scientists can find these patterns of prodromal behavior substantially more easily than scientists, even though most in the general public can't even easily recognize the far more obvious bipolar or schizophrenic behaviors!) And again, no systematic pattern of "discrimination" has been shown to cause schizophrenia (rather than PTSD or Depression) even if the victims could be identified by their prodromal symptoms.

Or perhaps Professor Deutsch would cleverly try to argue that the very risk factors I previously mentioned -- getting a viral illness, getting hit in the head, low birth weight, etc. -- are precisely the characteristics that people notice, prior to attacking others with their schizophrenia-and-bipolar-generating environmental program! Once again, however, except in extreme cases, how would a casual observer know that a person was exposed to an in utero viral illness, or was hit in the head when younger, so they could begin the work of planning and creating someone else's schizophrenia or bipolar illness?

SERIOUS MENTAL ILLNESSES ARE HIGHLY HERITABLE AND THIS IMPLIES THE EXISTENCE OF GENETICALLY BASED, INTERNALLY CREATED, PHYSIOLOGICAL DIFFERENCES BETWEEN THOSE AT RISK AND NOT AT RISK FOR DEVELOPING THE ILLNESS.

Heritability is usually divided into "direct heritability" and "indirect heritability". A direct genetic effect implies that genes code for a specific attribute of an individual by affecting or creating an internal physiological or pathophysiological process. For example genes coding for blue eyes are "directly" heritable. On the other hand, genes "indirectly" cause an *attribute* of an individual, if genes create a direct effect, the environment interacts with that effect, and the subsequent interaction changes or creates the attribute.

1. Indirect heritability (without human choice)

If genes create immune systems that are faulty in the newborn and

a vulnerability to a subsequent viral infection in the newborn then increases the risk of mental illness, then the mental illness would be considered an "indirect" effect of the genes coding for a compromised immune system, and so "indirectly heritable".

2. Indirect heritability (with discriminatory human choices)
If genes code for red hair and individuals *choose* to discriminate because of the red hair, and this causes a mental illness; the mental illness would be an indirect effect of the genes coding for red hair, and so indirectly heritable.

If an attribute is indirectly heritable because discriminatory human choices are involved (as in discrimination against someone with red hair), variance due to this gene-environment correlation is "factored out" and is NOT added to the genetic contribution to variance in calculating heritability, according to standard conventions. Indirect heritability without human choice (for example genetic vulnerability to infectious disease) is usually counted as part of the genetic component of variance.

For example, according to one of the authors of the first behavioral genetics textbooks, (Fuller, 1979)

"In our human societies discriminatory practices are often based upon superficial physical characteristics or upon cultural stereotypes. In these instances a G-E (gene environment) correlation will result. …(And)……. any correlation between it (the physical characteristic) and behavior is logically attributable to *environmental influences*. (My emphasis, MG)

In other words, indirect heritability of an attribute due to the intentional choices of people (like effects from both racism and lynching behavior) should be factored out in making estimates of the genetic component of a characteristic or behavior. In Professor Deutsch's example of white people lynching black people, variance due to the positive correlation between genes coding for darker skin and the risk of being lynched, *would not be counted* in the genetic component of variance, when calculating the heritability of lynching. There are multiple methods of subtracting out this variance when it is known. So contrary to Professor Deutsch, the lynching of black people more than white people *would not* be considered heritable, once gene-environment covariance is taken into account. To repeat, contrary to Professor Deutsch, a professional bio-behavioral geneticist would report the phenomenon of black people being lynched as "0% heritable"! (Professor Deutsch needs to give modern scientists a bit more credit!)

Biobehavioral geneticists, neuropsychiatrists, and psychologists routinely take into account gene-environment correlations when estimating the genetic component of variance while calculating heritability. Difficulties can arise in estimating the extent of genetic-environmental correlation if :

1. There are clearly observable differences in groups of people that others then react to and
2. These reactions influence a trait of interest and
3. It is difficult to estimate the extent to which these reactions influence the trait of interest.

Controversies involving discrimination, as a cause of gene-environment covariance, do not arise when there are no known consistently observable differences between people and/or when the consequences of discrimination do not cause the development of a trait of interest. When there is doubt about whether a factor should be considered "environmental" or "genetic", it is simply considered one more source of variance in a statistical model, and

assigned to neither genetic variance nor environmental variance.

Indeed, IQ differences between racial groupings are controversial because there is argument about which category to place them in. Heretability estimates of IQ differences are confounded by gene-environment correlation because black skin is visible, a genetically mediated attribute, and black skin is correlated with discrimination, an environmentally mediated attribute. And discrimination can lower IQ. But the extent to which discrimination lowers IQ is not known and the extent of discrimination is not known.

But there is no evidence that bipolar illness is caused by individuals sharing a commonly observable attribute that attracts discrimination. And there is especially no evidence that there are commonly observed attributes in those who don't yet have bipolar disorder that everyone but scientists looking for the attributes can see. And there is no evidence that even if such remarkable attributes existed, that discrimination could create the illness, in those with no other propensity to develop bipolar illness. So there is no evidence for any substantial "reactive gene-environment" correlation effects with bipolar illness!

Once known "reactive" gene-environment correlations are factored out or found non-existent, given carefully done scientific experiments with proper controls of variables (e.g. controlling for "shared environments,"), a 59% heritability figure then implies that 59% of the risk for developing an illness like bipolar disorder, is explained by genetic (not environmental) factors and specifically not by discriminatory choices of people. Since genes code for proteins, differences in genetically determined risk of illness implies structural and therefore physiological (likely cellular) differences in those predisposed to bipolar illness. These genetic factors can cause:

a. Internal changes leading to the pathophysiological attributes of an illness like bipolar directly, or
b. The elaboration of other conditions which themselves increase risk of developing illness. For example, genetically mediated immuno-compromise could increase risk of an infection that then increases risk of bipolar illness.

The ability to make determinations that an illness is partly caused by a genetic liability is precisely why heritability studies are conducted. Finding the genes, then their pathophysiological products, helps the research effort in ultimately understanding the cause of the illness and then curing the illness. If Professor Deutsch believes the 59% figure quoted by the NIH is calculated incorrectly; he should recalculate the figure or voice his criticisms of the figure in a peer-reviewed forum. And as stated previously, very recent evidence for heritability in bipolar illness is actually far higher, in the 85% (McGuffin, Arch Gen Psych) range.

But it is illegitimate and unfair to dispute a 59% heritability figure by casting doubt about how neurobiologists calculate heritability (usually geneticists do the calculations). Suggesting that "brain doctors" become "evasive" about the concept of heritability because they would find a "genetic component" in those who have been lynched, is disingenuous and wrong. So (per Professor Deutsch) if neurobiologists or others would make such an egregious mistake, we shouldn't trust other estimates by those studying heritability. This argument reflects an unfortunate lack of understanding on Professor Deutsch's part about how heritability estimates are actually calculated, as discussed above.

And the 59% heretability figure cited by the NIH is potentially overly conservative, since a larger and statistically rigorous twin study done suggests heretability estimates over 80% in those with bipolar disorder. Indeed, Professor McGuffin, the author of the recent study (Arch General Psych, 2003) believes that figures as

high as this may leave essentially no room for familial environmental influences in the development of this highly heritable illness, *at all*.

"Univariate model fitting resulted in estimates of heritability in excess of 80% (with a lower confidence limit of more than 70%) whether a broad or narrow diagnostic perspective was taken, suggesting that all of the familiality of BPD (bipolar affective disorder) could be accounted for by additive genetic effects with *no contribution* from family environment." [Emphasis mine, MG] (Arch Gen Psych, 2003)

As Professor McGuffin also realizes, it may be premature to eliminate familial environmental influences as causative factors in the development of bipolar illness. But Professor Deutsch and the editors of "**The World**" should understand: Our modern scientific questions about bipolar illness, no longer dispute that genetic influences profoundly shape this disorder. Rather, research now is attempting to find *how* genetic abnormalities cause bipolar illness, and to try to see what (if any) non-random environmental factors contribute to causing the illness, because maybe these can be controlled. Failing to understand this, can subject the editors of "**The World**" to legitimate charges of anti-scientific bias. Given current evidence, the hereditary basis of serious mental illness is no less a fact of life than the theory of evolution.

There likely is some over-diagnosis of schizophrenia in individuals in the black population and under-diagnosis of bipolar disease in the black population (Kilbourne), and this may reflect a number of sociological factors. However, studies of psychiatric patients reveal that when SCID and other structured diagnostic instruments are used and careful diagnostic criteria are applied, and especially when truly random samples are evaluated, there are significantly fewer differences in the rates of psychotic and mood disorders between ethnic groups (Cuffe, Strakowski) although differences still remain in the Cuffe but not in the epidemiological prevalence study of Strakowski.

CONCLUSION:

I have demonstrated that the remarkably high heritability estimates of bipolar illness, evaluated in carefully done studies, implies internally created, genetically based, pathophysiological abnormalities. These abnormalities are associated with remarkable brain damage; for example 40% decrease in brain gray matter (Drevets, Nature). The Lieberman data in schizophrenia is even more pursuasive with 12 cc's of brain shrinkage observed over just 6 months after a first psychotic break, unless the patient is given a modern medication.(Lieberman, ACCP). The cognitive decline in those with schizophrenia and bipolar illness, as well as diminution of the rational capacity to make decisions, has been repeatedly documented as well. I have shown that patient choice and even the choice of others is not particularly involved in causing the initial presentation of highly heretable mental illnesses like bipolar illness and schizophrenia. I have shown that the consequences of these illnesses are devastating, and result in 30 times the normal rate of suicide in the general population (Angst, F J Affect Dis, 2002), and 2-3X increased risk of cardiovascular (e.g. heart attacks), endocrine (e.g diabetes) and neurovascular (e.g. stroke) death (Osby, 2001). And patients die an average of 9 years earlier (Hirschfield, J Clin Psych, 2003).

So if the risk of a syndromic condition is highly increased by genetically based pathophysiological abnormalities, associated with profound organ damage, loss of functinality, and consequent damage to other organs; if the onset of the condition has little to do with patient choice, and causes profound patient suffering, it then

becomes obvious that such conditions are as legitimate as any other syndromic illnesses in medicine. Yet the editors of the "World" must insist, despite all evidence to the contrary, that there is no mental illness, that choices could explain the cause of these "behaviors" as easily as genes, that charity should be withheld and that research funds cut off, and that sufferers should be subjected to public scorn (the Qi Gong reader with approving banter from the editors). See below for the editors comments in their own words, words that in my view promote bigotry.

"As we have noted before, mental illness is not a real illness." --- Mad vs. Bad

"However, the religious world is not alone in having worthless superstitions. Secular mental health charities like Rethink promote a view of the world based on the idea of Mental ilness." -- Science and Superstition

"Unfortunately, nonsense about mental illness is what passes for serious discussion of moral issues among large and influential sections of the secular world. This, too, is an abrogation of intellectual and moral standards. For the sake of science and freedom and reason, we must abandon these secular superstitions as well." -- Science and Superstition

A new site has proposed a completely different theory for psychotic beliefs (associated with) Mental Illness…..Psychotic episodes associated with Qi Gong…..a model to explain the late adolescent onset of…….. schizophrenia…It has not occurred to anyone that the problem these designers and engineers discovered is one of desks, chairs, and repeating detectable movement in a business office.
Reader

"Chronic Cubicle Syndrome" (from the comic strip "Dilbert")

Editor

Editors: David Deutsch, Sarah Fitz-Claridge, Alan Forrester

Professor Deutsch and the editors of the "**Setting the World to Rights**" blog attack serious mental illness syndromes ("worthless superstition") by calling them "fake." In doing so they attempt to disenfranchise the mentally ill but also reveal their own profound ignorance, or ideologically motivated biases. One truly wonders why Professor Deutsch brings up concepts of "choice" when discussing some of the least "chosen" illnesses of any variety that one can think of: Schizophrenia and Bipolar illness. If someone reading this has actually spoken to someone with active schizophrenia, no evidence other than his/her own observation is needed to understand that no individual would choose such a condition.

Multiple illnesses develop partially because of peoples choices including, coronary artery disease, smoking induced chronic obstructive pulmonary disease, venereal disease, migraine headaches, viral sore throats (whose hand did you "choose" to shake?), gall bladder disease (how much fat did you "choose" to consume?), swimmers ear (where did you choose to swim?), fungal infections of the feet (where did you choose to walk?), institutional pneumonias (why did you "choose" to live there?), bacterial meningitis (why did you "choose" to associate with him?), osteoarthritis (why did you "choose" to get so heavy), hearing loss (choice of rock bands?), broken legs ("choice" of skiing?), lead poisoning ("choice" of living arrangement), etc, etc., etc.." Attempting to selectively attack the illnesses of the seriously mentally ill, stricken by their heredity and harmed by impersonal

forces, amongst all patients with illnesses more logically "caused

by" individual "choices", promotes bigotry against the mentally ill.

If Professor Deutsch wishes to make the argument that certain illnesses that the NIH attributes largely to heredity, could actually be caused by cultural discrimination based on an observable attribute, appearing before the onset of illness; why did he not pick illnesses that actually have a genetically mediated observable attribute? For example, those with pre-diabetic syndromes are far more likely to have a visible attribute like large stomachs with thin arms and legs, than those with prodromal bipolar illnesses or schizophrenic illnesses! And Type II diabetes is a remarkably hereditary illness after age 45. So perhaps people's discriminatory comments, when they see someone with a large stomach, completely cause diabetes, by increasing cortisol levels (a stress hormone that increases blood sugar) in those psychologically attacked and therefore "stressed" because of their large stomachs? Is heritability of diabetes over-estimated given this possibility of "reactive covariance"? Arguments about type 2 diabetes would actually fit so much more neatly with Professor Deutsch's sociological speculations about the potentially (non) genetic origin of seemingly genetically based illnesses, even though Professor Deutsch's arguments would still be wrong. And a (non-medical) sociological theory of the cause of diabetes would not necessitate Professor Deutsch positing the existence of clearly seen attributes that the general public can react to (but that apparently disappear when scientists study them) in those destined to develop bipolar illness or schizophrenia!

Yet Professor Deutsch decides to apply his bizarre arguments selectively against heritable mental illness syndromes, though diabetic conditions, coronary artery disease, and a host of other heritable illnesses usually present with visible traits potentially recognizable by observers to which others can "choose" to respond. These illnesses would fit better his unusual theories about responses to observable attributes causing seemingly heritable illness. This selective negative attention to those with mental illnesses also promotes bigotry against the mentally ill.

The World makes a big deal out of the fact that mental illness syndromes are defined by their symptoms rather than a pathophysiological condition. In fact the World calls mental illnesses "worthless superstitions." But as pointed out earlier, type 2 diabetes is a "syndrome" defined by its symptoms and with multiple underlying causes that we don't yet understand, as well. Multiple illnesses in medicine share this characteristic, and yet the editors don't disenfranchise those with: migraine headaches, "restless legs", chronic obstructive pulmonary disease (COPD), and the coronary syndrome -- all syndromes defined by their symptoms and not their underlying pathophysiology. Indeed, biological scientists understand the underlying causes of very few illnesses, but should we say that most illnesses in medicine are "superstitions"? Holding mental illnesses to a standard so much higher than other medical illnesses, also not defined by pathophysiology, creates distinctions for no logical reason, and so also promotes bigotry against the mentally ill.

The "World" attacks mental illness syndromes because its editors erroneously believe that heritable mental illnesses cannot be defined or measured. Yet as previously argued in my response called "Diseases vs. Syndromes," mental illness syndromes are in fact reliably defined and measured when we use structured clinical instruments. Indeed, certain syndromes (for example major depression, but also bipolar disorder) predict certain cardiovascular end-points considerably better than many other "risk factors" for progression of heart disease. Attacking mental illness syndromes

because they cannot be measured, or do not philosophically and

physiologically relate to other illnesses in medicine, is factually wrong, segregates the mentally ill, and therefore (once again) promotes bigotry.

Perhaps it goes without saying that those promoting bigotry would also attack charities helping some of the most disadvantaged people on earth, those with serious mental illness. When famous intellectuals like Professor Deutsch say that supporting charities like "Rethink" is effectively "worthless", this cannot be good for fund-raising. Rethink also sponsors research into mental illness; and yes, those supporting bigotry will often attack the scientific enterprise itself, by trying to cut off funding for research. One should not be surprised to find core anti-scientific and anti-charitable values underlying discriminatory views.

Those denying evolution, or even those denying the reality of the Holocaust, do not promote a bigotry that worldwide injures or kills millions of people, as those attacking the Mentally Ill do. When blatant Anti-Semitism, Racism, and/or bigotry against the seriously Mentally Ill (or the handicapped or disabled, for example) is stated in a public forum, particularly by well-known, influential, and public intellectuals like Professor David Deutsch; this seeming hatred (or hopefully significant ignorance) needs to be publicly rebutted, preferably in the very forum in which it was created. The bigotry must be exposed to the clear light of day.

As stated previously, Professor Deutsch is a well-known physicist and public intellectual whose excellent reputation precedes him. Even his patience as a teacher and kindness have become known world-wide. On a personal note, I have read many of Professor Deutsch's remarkable tracts on the nature of science and reality, and enjoyed his perspectives. That is why it is particularly disturbing to read Professor Deutsch's views about mental illness. I must assume that he has simply not been exposed to much of the scientific work performed over decades and is relying on information received from highly partisan, ideological sources, because I otherwise cannot understand why a great man like David Deutsch would promote anti-scientific nonsense that in turn promotes bigotry. I hope that all of the editors of "**The World**" are capable of rethinking their views, as honest intellectuals should, when confronted with the illogical, unscientific, and bigoted assumptions underlying their perspectives. It is possible for a Holocaust denier to genuinely believe that the Holocaust did not occur, but when confronted with evidence, the non-ideological and honest individual, should be able to "Rethink" his views.

All of us in the medical community want better nomenclature for our "syndromes," many of us even lecture about the philosophy of the DSM and some of its more unusual and less than elegant aspects. If the DSM were ones sole guide to understanding mental illnesses, I can see how one could get confused and irritated. But denying the obvious fact that genes can cause abnormalities in every organ including the brain, and denying that abnormalities in the brain can cause behavioral problems; requires remarkably illogical and unscientific thinking (to put it charitably). Such thinking requires a "totalitarian rationalist" perspective at the expense of a scientific perspective. Perhaps "All Minds are Equal," but so are all "Pigs" (in Orwell's totalitarian Animal Farm.)

In general, scientists enjoy when individuals from different fields utilize knowledge from their own fields to contribute to our common knowledge base. Cross-pollination in science is useful. But reckless attack, based on lack of knowledge or worse, certainly does not advance science, indirectly injures many the world over, and does nothing except excite controversy at the expense of collegiality.

Sincerely,

Michael Golding

by Michael Golding on Mon, 06/20/2005 - 04:28 | **reply**

Re: Serious Mental Illness is Hereditary

What does the verb 'to disenfranchise' mean, in this context?

by **David Deutsch** on Mon, 06/20/2005 - 16:37 | **reply**

Our “ideologically-motivated biases”…

… **may be genetic in origin**:

> These intensely charged political reflexes are shaped partly by inheritance, Dr. Lodge said.
>
> It may be the clash of visceral, genetically primed social orientations that gives political debate its current malice and fire, the study suggests.
>
> Although the two broad genetic types, more conservative and more progressive, may find some common ground on specific issues, they represent fundamental differences that go deeper than many people assume, the new research suggests.
>
> "When people talk about the political debate becoming increasingly ugly, they often blame talk radio or the people doing the debating, but they've got it backward," Dr. Alford said. "These genetically predisposed ideologies are polarized, and that's what makes the debate so nasty.

This raises the question: should people with genetically predisposed ideologies caused by visceral, genetically primed social orientations – be allowed to vote?

by **Editor** on Tue, 06/21/2005 - 20:17 | **reply**

Re: Serious Mental Illness is Hereditary

I think Michael Golding got the wrong end of the stick on some issues.

He states that mental illness is like **Type 2 diabetes** and other illnesses for which we do not know the exact cause. Type 2 diabetes results when a person's body does not make enough insulin. As such, there is an objective chemical marker for Type 2 diabetes - lack of insulin. Pathologists call an objective marker like a chemical or physical abnormality a sign as distinct from a symptom, which is a complaint or behaviour displayed by a patient. A sign is easily testable and a patient cannot produce it as a direct result of his ideas about the world. He can get very angry as a direct result of his ideas about the world. He can imagine that he sees ghosts, or people who don't exist, or that is Abraham Lincoln, Napoleon, Hitler or William Shakespeare as a result of his ideas about the world. Nobody has ever found any objective chemical marker for schizophrenia, chemical or otherwise. So while a doctor may correctly claim that he can do an objective test to determine whether a person has Type 2 diabetes, he cannot correctly claim to have an objective test for schizophrenia, or for any other mental illness.

He says that adopted children develop mental illnesses if their family has a history of mental illness despite adopted parents’ best efforts to stop this. But I can come up with many explanations that

don’t involve genes. For example, if the adopted parents know that the child’s family had mental illness and adopt policies that they think will prevent mental illness and these policies might cause the child problems that led to psychiatrists deeming him to be mentally ill. If the adopted parents try to stop their adopted child from becoming violent by stopping him from watching TV or playing video games he may get very angry with them if his friends have easy access to TV and games. They may then send him to a psychiatrist who might diagnose him as being paranoid because he thinks his adopted parents are persecuting him.

People also have access to a vast world of ideas about how people of different appearances ought to behave, though TV and other means of mass communication: children with glasses should be geeks, Hispanic children should sing like Jennifer Lopez and so on. No study can filter out the effects of these ideas, not least because people don’t always consciously know they are conveying such ideas. My point is not that one of these explanations I've just thought of explains mental illness. It's that explanations of that kind, and many others I have not thought of, are just as compatible with the evidence he cites as the gene explanation is. Hence that evidence is not particularly evidence for the gene explanation.

I don't believe, and nor does **The World**, that people choose to become 'mentally ill', or that they should be blamed for it. As for being disenfranchised, surely our view is the opposite of that. We stand up for them to have the same rights as anyone else, including the right not to have unpleasant stuff done to them by force unless they have committed a crime.

The mere fact that a person chooses a particular behaviour does not necessarily mean that they should get any praise or blame for that choice. And definitely not when the choices and circumstances that led to that choice are still unknown. Michael Goldring seems to confuse criticism of a certain explanation of behaviours with 'bigotry' against the person doing them. But that isn't true. When cigarette smoking was first suggested to cause lung cancer, before there was evidence of this, that didn't mean that the people proposing that explanation were blaming cigarette smokers. Similarly today, if the non-gene explanation is true, then it is not known what, in a person's environment, causes them to behave like that, just as, if the gene explanation is true, it is not known how the genes cause it.

Michael Golding may deny that a psychiatric patient has a will but the patient still exhibits behaviour that is very difficult to interpret as anything other than a deliberate and systematic attempt to undermine his 'treatment.' Such as saying 'I'm not taking this crap anymore!' I think the simplest explanation is true, i.e. - that he does not want to take the chemicals prescribed by the psychiatrist.

by **Alan Forrester** on Wed, 06/22/2005 - 01:32 | **reply**

Perhaps not the best choice of words

Enfranchise = "to set free" (as from slavery)

By "disenfranchise", in the context used, I meant that certain opinions of the editors may (unintentionally) subject patients to the "slavery" imposed by their illnesses.

The word is too strong, however, because I don't think the editors would intentionally subject someone to slavery. But by denying the illnesses of the mentally ill (and the funding and the research and the respect these patients deserve) the editors may harm people that they don't mean to.

by Michael Golding on Wed, 06/22/2005 - 02:31 | **reply**

Would You Help Them Vote Republican?

Should the editors vote? Well …err…. grudgingly…… yes.

But if all Republicans were whisked by unseen forces into voting booths only during Democratic primaries and they were forced to see only a Democratic candidate on the ticket; and if all these Republicans were beaten over the head in the booth until their brain shrank, causing 3 times the rate of diabetes, heart attacks, and stroke; and if they bravely begged to vote Republican despite their torture; and if they killed themselves 30 times more frequently than Democrats so they would not be forced to vote against their will: Would you try to eliminate this political "sickness," or would you call it their "choice"? Would you try to help them out of the booth even if they didn't yet have the strength to vote Republican? But if you can only ignore them, can you at least not claim that there is no issue. And would you please not condemn the charities trying to get them out?

by Michael Golding on Wed, 06/22/2005 - 04:29 | **reply**

Respect?

Who is more respectful of patients?

Those who say that their behavior is largely beyond their control and that their ideas and choices cannot change it, so they must be continually coerced "for their own good"?

Or, those who deny this?

Gil

by **Gil** on Wed, 06/22/2005 - 16:17 | **reply**

Re: Perhaps not the best choice of words

So being 'enfranchised' in this context meant being set free ('emancipated'), which was in turn a metaphor for being cured of an illness (rather as we might say 'this person was set free from his wheelchair by surgery').

There is a much discussed practical difference between being set from from a mental illness on the one hand, and being set free from a wheelchair or prison on the other: The former sort of 'being freed' can involve a person who was already free to walk down the street at will (or instruct his friend or his wheelchair to take him), losing that entitlement. Instead he may be hunted down as he tries to escape, immobilised, taken into a room that is barred and locked from the outside, despite begging to be set free, and he may have drugs administered to him against his will, and so on. The latter kind of 'being set free' never involves any of these things.

There is, at least, a certain irony in the existence of these two contrasting, and sometimes incompatible, kinds of 'being set free'. And at the very least there is a certain terminological problem: for instance, when I described the person as 'begging to be set free', I should, within the context of this metaphor, have said 'begging to remain imprisoned'.

None of these ironies or terminological puzzles arises when the metaphor of 'being freed' is used in the wheelchair case. It only ever arises in the mental illness case. Being in a wheelchair, one remains entitled to refuse the treatment that would 'set one free', even if one is refusing for profoundly irrational reasons (such as religious ones) and even if this will result in one's certain death.

This entitlement is called, in the tradition of Engish law and legal philosophy, a 'right' or a 'freedom'.

Is it self-evident that the difference between these two types of 'enfranchisement' really is just a meaningless curiosity and an insignificant terminological puzzle? That they really are the same in all morally significant respects? And is it it self-evident that there is no important philosophical difference between the two classes of state that are both conventionally known as 'illnesses', mental and physical?

by **David Deutsch** on Wed, 06/22/2005 - 17:55 | **reply**

Excuse me?

Professor Deutsch,

According the NIMH, there are 40 million people in the United States with a diagnosable mental illness in a given year. However one arrives at this number, whether it should be calculated as greater or smaller, only the tiniest fraction of a percentage of patients is involuntarily treated. According to a commonly cited study (I'll find it later if you'd like), the mentally ill take their medications at the same rate as those with other medical illnesses. They want to feel better.

If I had said to you that I believe we should treat those with Tuberculosis with antibiotics and explained the reasons why (it's a dangerous disease, it can destroy the lungs and kidneys); if I described the many other ways in which TB can kill or injure people and then told you about a group of people who don't believe in infectious disease; if I further told you that I explained to them why they should believe in Tuberculosis because accurate beliefs tend to be both ethically reasonable and scientifically valid; if I explained that to you, and said that refusing to believe in the reality of infectious disease "disenfranchised" (enslaved) those with Tuberculosis, I think you may have congratulated me on bringing science to those with less information. I bet you would not have said the following:

"The former sort of 'being freed' can involve a person who was already free to walk down the street at will (or instruct his friend or his wheelchair to take him), losing that entitlement. Instead he may be hunted down as he tries to escape, immobilized, taken into a room that is barred and locked from the outside, despite begging to be set free, and he may have drugs administered to him against his will, and so on….

…..And at the very least there is a certain terminological problem: for instance, when I describe the person as 'begging to be set free', I should, within the context of this metaphor, have said 'begging to remain imprisoned'.

None of these ironies or terminological puzzles arises when the metaphor of 'being freed' is used in the wheelchair case (when a surgeon operates to allow a formerly wheelchair bound person to walk)"

Excuse me? You have very wrongly assumed that when I was talking about mental illness syndromes and the importance of treating the mentally ill, that I was talking about *involuntarily* treating them. I was discussing no such thing. Not in the slightest, and I must admit to being rather flabbergasted at your response. It took me 20 minutes or more of staring at what you said to figure out what you were assuming.

When I wrote my discussion about the genetics of certain mental

illnesses, I was (amongst other things) demonstrating that mental illness syndromes are devastating illnesses that can be hereditary and they hurt people. I was saying, "Please don't deny that they exist (because they do) and let's treat them."

Somehow, you then determined that I was (or perhaps could have been) talking about involuntary treatment. Would you truly have immediately jumped to the same conclusion if I were asking people to acknowledge the threat of Tubercolosis and the need to treat it? In the United States, those with Tuberculosis are (very rarely, like those with mental illness), involuntarily treated if they are a risk to others; but you must admit, involuntary treatment is not the first thing to come to mind when someone talks about the genetics of Tuberculosis susceptibility. So how did you jump from my discussion of the genetics of heritable mental illness and the need for research and support and treatment of the illnesses, to a discussion of coercive treatment? Is this on your mind? Perhaps I'm wrong, but I don't believe you would have come to that conclusion if I had been discussing TB.

I treat thousands of some of the sickest mentally ill patients in this city (mostly all Medicaid, many financially distressed, and many with schizophrenia) and not one is currently "involuntarily" treated, and not one is forced to take any medication whatsoever.

Thank you for demonstrating, more clearly than I could ever do myself, the horrible biases some people hold about the overwhelming majority of treatment rendered to those who are suffering with mental illness. Thank you for demonstrating the remarkably incorrect assumptions some hold about the desires of the overwhelming majority of the mentally ill in the United States.

Sincerely,

Michael Golding

by Michael Golding on Thu, 06/23/2005 - 06:39 | **reply**

Re: Excuse me?

What is the meaning of the quotation marks round "involuntarily" in the above?

by **David Deutsch** on Thu, 06/23/2005 - 12:57 | **reply**

Re: Serious Mental Illness is Hereditary

I have known Dr. Golding for many years as a very able and well-respected physician. He asked me to read this website and respond to the Science and Superstition articles if I wished.

I see the unfortunate legacy of the anti-psychiatry movement is alive and well at Oxford University! Somehow a few philosophers seem to be still reading this mostly unscientific material, without apparently the slightest cognizance that 99.9% of the learned commentary and essentially all of the scientific evidence on psychiatric issues in medicine has nothing to do with Thomas Szasz or his writings! Unfortunately, due to horrible discrimination, the overwhelming majority of contented psychiatric patients do not write about their experiences (because people like David Deutsch will call them "fake(rs)", and they are already embarrassed by the terrible stigma of mental illness. They tend to be vulnerable people anyway. That leaves a few libertarian philosophers, scientologists, Tom Cruise, David Deutsch, a small minority of unhappy and vocal psychiatric patients, and a few others to create a ruckus and a fuss, and make things worse for everybody.

I have been practicing medicine for many years. Alan F. is right

about signs being considered exam findings, and symptoms being considered the report of the patient. We used to use that language a lot. But those names don't matter so much because what we obtain in a clinical encounter is information, whether from the patient, the lab, or our exam. Our findings need to predict something useful to us and our patients, regardless of who says it or reports it. The issue is reliability and validity, not signs and symptoms.

Labs are correct within a certain range (and they have a certain reliability) and even if they are mostly accurate at a given time, they change all the time because the body keeps changing. A person can have non-insulin dependant diabetes (what Michael calls type 2) one day and not have it the next three but have it a week later, if you just follow the definition of diabetes. Type 2 diabetes, contrary to Alan F.,is not defined in the slightest by the insulin level, and I will explain why later. If you wish to learn, Alan F., look up the definitions. Fasting blood sugar is one way of defining this syndrome. Endocrinologists define adult onset diabetes, and every few years, as evidence accumulates, they change the definition. But if someone is on the border of getting diabetes, he usually ultimately progresses to full-blown diabetes unless he loses an awful lot of weight and exercises, no matter what definition you use. It's not true (Alan F) that your "ideas" about the world can't change a "sign" of illness like blood sugar level. People with schizophrenia (odd ideas and much stress) and bipolar disease have many times the rate of diabetes and it is easy to change a fasting blood sugar level by what one thinks (because acute stress changes blood sugar levels). Michael cited studies to support this. Did you read what he said?

If you are under stress your cortisol (a steroid) level goes up and that changes the deposition of abdominal body fat and independently raises blood sugar. Look up Cushings disease if you want to learn about it. When a relative takes prednisone (another steroid) for bad inflammatory arthritis, that raises blood sugar as well. Chronic mental illness can create, in effect, a minor form of Cushings disease because of chronically elevated cortisol. Indeed the response of cortisol to exogenous steroids in fact CAN be used to diagnose major depressive disorder (dexamethasone suppression test); the only problem is that a clinical interview based diagnosis is better in predicting who will respond to treatment. So yes, acutely stressful feelings and thoughts acutely raise that "objective" and not quite so stable sign of illness that defines diabetes: Blood sugar. Chronic stress continues the pattern, likely by changing body fat deposition in those with major mental illness. Ones ideas and thinking do change ones body and blood sugar level. So many things can "cause" adult diabetes, that's why it's a syndrome.

Even in infections, I bet you (Michael) would call these diseases, but how does the same colony count (of bacteria) in one person cause sickness and infection, and in another no problem at all? So is the cause of infection a bacteria or a susceptibility to infection? So there are multiple causes even of infections, thought to be "diseases." When a person is 10 years old, he gets the beginnings of coronary artery disease, a fatty streak in his arteries. So how much plaque build-up do you need before you have coronary artery "disease"? Coronary artery "disease" is defined by people, just like bipolar disease is, whether you want to call it a disease or a "syndrome". It's sometimes hard to get a pathologist to tell me, when they look at a slide of something I cut or swabbed from someone's body, whether I have to worry about the patient's condition getting worse, but that's what matters to me. Often, however, they just tell me about the pathology of the slide (the "lesion") and that doesn't help much. Some pathologists keep saying, for example, there are

"atypical cells" on the slide, instead of telling me what I want to

know, which is "But will the cells keep dividing and injure my patient?" I'm exaggerating a little but a few pathologists hedge so much so nobody will sue them, that the family doctor or internist has to figure out whether the "atypical cells" are really a "cancer" (probably going to get worse) or not. I usually let the oncologists decide, but they disagree with each other, too. And some cancers are considered "normal," also, given the finite amount of time that we live and because they are so prevalent after a certain age (e.g. certain prostate cancers). So even the lesion called prostate "cancer" may not be that medically relevant in a few situations. So by the modern terms, shouldn't we call "cancer" a syndrome, too? When do atypical cells become cancer? Is a definition involved?

Modern doctors have come up with the language of syndromes (actually these terms are old but now more in vogue) because they think when they have finally found the "disease" (the "real" pathophysiological disturbance) they are going to take the art out of medicine by eliminating the gut feelings we have and the uniqueness of each patient sitting in front of us. Calling something a "disease" with a "cause" sounds precise and should lead to a precise treatment, but diseases and syndromes, are actually more alike than different, they just reflect more or less knowledge of something, not necessarily a different category of illness. Diseases and syndromes are definitions describing an aspect of reality, not more or less objective than the evidence supporting them. And diseases also have many causes, just like what Michael considers to be the defining characteristic of syndromes. Leave perfection to David in physics. Our job is to help patients feel better and live longer.

Our knowledge of what causes each illness is more or less. We know more about strep. throat (a "disease") than schizophrenia (a "syndrome"), but trust me, there's a lot more to know about strep. throat, too. As stated before, why does one person get it when the other doesn't and they both are infected with the same number of bugs?

Diseases are entities that cause disruptions of bodily function. They are internal to the individual and injure the combined physical and psychological health of people. A disease could imply, for example, a genetically based illness that causes some internal (known or logically necessary) pathophysiological state that causes shortened lifespan or suffering. Such conditions usually then damage organs or organ systems. Bipolar disease would fit in this category of illness. Or a disease could imply a pathophysiological state with some consequent damage to an organ (causing suffering and/or shortened lifespan), independent of genetic influence. A torn anterior cruciate ligament from a football injury would be an example of this. Or a disease could imply some other physical characteristic that causes people to suffer or shortens their lifespan (poor vestibular sense causing balance irregularities or nearsightedness would be examples). And diseases should exist at least to some extent independent of the reactions of people to an observable physical or psychological characteristic of a patient (i.e. independent of discrimination based on ones politics or skin color, for example). Diseases really imply current physical dysfunction or current vulnerability of a body part or organ to a future dysfunction (e.g. compromised immune function), which predictably causes people to suffer or not live as long. Bipolar disease, schizophrenia, and depression easily meet the first of these characteristics (genetically based and causing organ damage and suffering and death).

Many mental illnesses are diseases. They run in families so the genes are involved (the body is involved), they make people

miserable (the psychology is involved), they severely damage the

rest of your body, so they relate to other illnesses; they shorten people's life and cause certain pathophysiological states, even though most known pathophysiological states due to mental diseases are not specific to a given mental disease, so they can not be used for diagnostic purposes. (For example, depression causes worsening heart disease, but many conditions also cause this). Furthermore, we know how to treat many mental diseases with drugs and therapy. I usually do better treating depression than chronic obstructive pulmonary disease and diabetes (all diseases, all caused by many things, mostly unknown). Some psychiatrists (and even a few young family doctors) are letting people fragment our profession. The body and mind work together. Using the concept of syndromes to define serious psychiatric illness is going to segregate psychiatry from the rest of the field of medicine even more in the public's mind, and there is no reason not to call major psychiatric illnesses diseases, given the genetics involved and the damage to organs they cause. In medicine, and I include serious mental illness, we have a unified set of diseases, a unified set of treatments, all involving how people feel and how the body works. That's how it's always been. Non-doctors just need a whole lot of education about the field of medicine. Obviously, just read this website.

Alan F. tries to say that bipolar illness doesn't have to be genetically based. He correctly argues that if Hispanic girls learn to sing like Jennifer Lopez, then that does not imply that genes, more common to Hispanics, cause Jennifer-Lopez-type singing. But Alan, I don't think you read what Michael said. Unlike Hispanics, there is no known physical appearance that bipolars have before the onset of their illness. The culture does not say, "bipolars have blonde hair and green eyes" and then condition bipolar disorder in individuals with these genetically based physical characteristics. Hispanics have (a few) physical characteristics that people can notice. If nobody has defined the appearance of somebody to be selected (for conditioning to be bipolar), then the patient can't be trained to be bipolar based on these undefined characteristics. So heritability studies can't accidentally attribute to genes what actually is a product of the training of people with blonde hair and green eyes. And no expert on "TV" can reveal these alleged characteristics (the blonde hair and green eyes) to others, as you suggest happens, because no one knows any such characteristics in individuals who are destined to become bipolar. Think about it. So identical twins shouldn't have a higher correlation of having (and not having) bipolar illness than fraternal twins. And children of families with bipolar disorder shouldn't have higher rates of bipolar when adopted out into other families. And children from families without bipolar illness, adopted into families with heritable mental illness, should not have lower rates of bipolar mental illness. Studies repeatedly demonstrate the heritability of bipolar disorder and therefore explain these findings. In addition, Michael also explained why it is problematic to consider it possible to condition someone to be bipolar even if bipolars all did have blonde hair and green eyes. Alan F., did you read what he said?

Alan F. you say that maybe families without mental illness adopt those who have a family history of an illness (like bipolar illness) but then create the (bipolar) illness in them because of the adoption process (so it's not the genetics) You say that because the adoptive family knows that the adoptee comes from a troubled family, they then try to raise them too well, which backfires. So the attempt at excellent parenting in fact causes the adoptive child to have the very mental illness the family was trying to prevent. But how to explain that adopted children without family-of-origin bipolar illness, tend not to develop bipolar illness even if their adoptive families have mental illnesses? Would you then claim that because the mentally ill tend to raise children badly, they of course make an

exception for adoptive children and raise them well, but this time it doesn't backfire? Or perhaps attempting to raise children a particular way will always backfire, so if you raise them badly, they will turn out well and not have mental illness? Don't you think it's a little (even logically) strange to argue that families without mental illness are more likely to raise their kids to develop mental illness, and families with mental illness are more likely to raise kids without mental illness (adopted or not)? I bet Michael could show you hundreds of studies disputing that! I can say, for example, that a bunch of wind blows the parts together to assemble a 747 airplane. If you show me movies of planes being put together by people, I can say that there were mirrors that fooled the cameramen and created the illusion of people involved, but actually the wind did it all by itself. And I could also argue that aeronautical engineers put all the sand dunes in the Saharra desert together. You guessed it. When the cameramen come to film the aeronautical engineers, the mirage demonstrates that the wind is partially doing it, but actually the engineers manufacture all the dunes. It's just a different explanation of sand dune creation and airplane construction. Not better or worse. Right? Michael is known for being a careful researcher and physician. He cites a number of studies and you (Alan) respond to none of them; indeed you repeat the fallacies that the studies cited dispute and his careful reasoning disputes.

And Alan, in addition to (not understanding?) twin studies, you don't know much about diabetes, either. You say that type 2 diabetes is a disease with a pathological marker, low insulin. But you are just wrong. In most of my patients, when it's early diabetes, the insulin is actually not low; but in the metabolic syndrome, in fact high. Blood sugar can even go up with HIGH insulin levels. But measuring insulin doesn't tell you much, anyway. In layman's terms, the pancreas tries to compensate for the person (usually) weighing too much and therefore requiring a lot of insulin, so the pancreas puts out more insulin into the blood stream and insulin levels go up. The cells in the body, for not completely known reasons, just can't pull enough glucose into the cell despite insulin, so blood sugar measurements can be higher. But if the body demands too much of the pancreas over too long a period of time, then the pancreas can dramatically decrease its production of insulin. Then the insulin levels get lower until they are below normal. So the insulin levels INCREASE as a person becomes (type 2) diabetic, and decrease later on. So Alan, you can't point to the pathological lesion that causes type 2 diabetes, because it seems to be inside cells, and we don't know what the many problems inside cells (or outside them) could be. Why did you claim that you could point to a lesion? So is diabetes a "fake" disease just like bipolar illness? Michael also briefly described why diabetes is a syndrome. Did you read what he said?

Finding a "lesion" is finding a bit of evidence, like hearing a sound with your stethoscope or listening to what a patient says. Either a lesion predicts something useful or it doesn't. Look at all the "lesions" on your skin, most are medically useless and predict nothing, though pathologists can deliver a whole report on each of them! If the sounds we hear with a stethoscope predict something, if what a patient says predicts something, if a lab result predicts something, and if something a pathologist says about a lesion predicts something, that's helpful. Otherwise any of the above is not useful; including the "lesions" Alan F. seems to think are important.

The editors have their mind made up because they've never really seen patients and they've made things up from what they've heard, apparently without studies. Alan F. is talking as if he knows something about diabetes and adoption studies and his ideas seem

….well, interesting at best. Everybody who's ever seen family upon

family member with mental diseases or diabetes knows that a lot of diseases have a genetic basis. There are hundreds of studies showing this (as Michael points out) in mental disease but also in diabetes. If hundreds of good scientific studies and beautifully converging data from dozens of fields, don't convince editors that genes cause all kinds of brain diseases with unusual behaviors and subsequent or concomitant diseases of other organs, then "where" the editors' are looking, is getting in the way of "what" they are seeing. You can't fight with people who won't read or listen to the scientific evidence. It's like trying to convince people whose pastor said the world was created in 7 days to look at the geological record or DNA. They can't and won't because it will disturb what they think they know. For reasons we don't know, the genes help make bodies and brains abnormal, and genes interact with the environment in a way that makes people suffer. This is known from hundreds of human and animal studies.

Sometimes differences in genes don't cause physical problems. David quotes one study that shows political progressives and conservatives may differ in their genes, but so do people with and without green eyes. It is a provocative study, nonetheless. David does come up with interesting examples to tease the mind. I will give him that. Sometimes differences in genes cause damage to the body and brain (in diabetes, heart disease, schizophrenia) and sometimes they don't (in progressive political beliefs and green eyes).

If "progressives" get punished in a conservative country, does that make being "progressive" a disease? (No, because it would be societies reaction to progressive politics, not their internal state that caused the suffering.) Plastic surgeons can change a big nose to a little nose. But a big nose is not considered a disease because it is society's reaction to the big nose that makes the patient with the big nose uncomfortable. But there are some cases in which it is hard to tell whether it is society's superficial reactions to people that make people feel sick, or whether it is their genetic/internal physiological state that causes a condition that makes them feel sick. Example. Are some shy people unhappy because of their physiology or because of a cultural value in America that tells people to dislike shy people? In Japan, shyness is appreciated more than America. And you can change shy people to more outgoing people with drugs (SSRI's and MAOI's.) If society values obesity and gives obese people more access to health care (?Sumo wrestlers), I think I still would not encourage obesity. But then I shouldn't treat shyness either, even if society values outgoing people and punishes shy people. In reality, I don't treat normal shyness and would not encourage a Sumo wrestler to gain weight. In general physicians try to separate out cultural reactions to attributes, from attributes themselves.

If cultural values tell us to not use antidepressants because depression has cultural aspects, and yet patients die of a depression factor that induces heart disease, should I not use possibly life-saving antidepressants just because society says not to do it? Should I not treat obesity just because T.V. commercials encourage people to eat, so obesity, causing diabetes, is partly culturally determined? No. I and other doctors use antidepressants and antidiabetc drugs and encourage weight loss.

David's quoted study suggests that being politically progressive (vs. conservative) can be genetically influenced. But physicians usually try to do the best we can to separate reactions to a genetically influenced trait (for example lynching of black people) from conditions that are internally created, caused by genetic inheritance and other factors. Lynching is not a medical disease. Michael

mentions discrimination against black skin (racism), and shows that

black skin isn't a disease either, even if genes cause black skin and someone suffers because of it. It's really the same thing with political preferences. Reaction by others to a (partially genetically determined) political stance is not a disease even if it causes injury. Let's say you are a person who is genetically influenced to be "progressive," but then you get physically attacked for being progressive. This discrimination is not a disease, nor is being a progressive, because it is society's reaction to the political opinion that is the problem. Eye color and political persuasion, though apparently genetically influenced, are not diseases because if they do cause problems, it is because of people's discriminatory reaction to them.

But bipolar disease and diabetes cause injury and unhappiness and death to people, all by themselves, without anyone having to react to patients with these illnesses, at all. As Michael says in his piece on syndromes, major depression (but also bipolar illness and diabetes) have "a life of (their) own". People can die from these illnesses without anyone saying a word or doing a thing! Actually, people die of these diseases sometimes because people in fact do not "say a word" or intervene to help. That is the problem. And it is made worse by people (like the editors) denying the existence of mental diseases that kill people. Michael is right about that, and it's a shame that such ignorance exists in the 21st century. Some philosophers like to discuss Szasz, but not, unfortunately the multiple premature deaths and suffering of individuals with the mental illnesses they don't believe in. That itself tells you something about priorities (More important to think in the abstract than reason in the present or help the suffering, I think) As healers of the body and mind, physicians treat bipolar disease and depression and diabetes and coronary disease, but not political progressives or people with blue eyes, and we'll argue with the plastic surgeons and psychiatrists about treating those with big noses and people who are shy.

Look at your grandmothers' medication lists. Medicines for pain are often "antidepressants" nowadays (e.g. Cymbalta, elavil). Anti-anxiety SSRI's may help those with heart disease. And the new cortisol releasing hormone antagonists (when available) may treat obesity, diabetes, coronary disease, and depression. Some, what Michael calls "totalitarian rationalist" philosophers, like a clean distinction between the body and the mind. But the body disagrees. And the mind disagrees.

The field of medicine does not so much want to define "what is wrong" but rather ultimately wants to use a definition of "what is wrong" to help people, no matter how you define "what is wrong". Our diseases predict things about progression of an internal pathophysiology that will shorten a person's life or make him uncomfortable, regardless of how much we know about the cause. That's why some pathologists need to stop talking about their "atypical cells" ("lesions" so to speak) and start telling us whether these "atypical cells" are going to keep growing into a cancer and hurt our patients. In fairness, most pathologists are actually pretty good about helping us in this way; but half the time, a lesion, or not a lesion, tells you very little. We want our diseases to help us predict what we should DO to stop internally bad things from happening to people. (Period) That is what is important to most doctors, and Michael says it a little bit, but it should be emphasized again. For the externally bad things that happen to people, we have to, unfortunately, rely on our politicians to help us. God help us all.

And yes, sometimes you have to help people who are not thinking correctly. Has anyone ever been to a post-op recovery suite, especially to see the patients after a transplant? It seems half the

patients are in some kind of restraints because otherwise they'll pull

out their central line or their intubation tube and they'll die. When someone is not in their right mind, sometimes you have to help them until they can take care of themselves. The readers and the editors, if they have an ounce of common sense, would want that, too, if they were sick. Even if they can't say so right now because they are lost in their philosophy, I bet I know what they'd want for their family member in an emergency because philosophers, just like them, tell me to help their family members when their loved one is dying. Because almost nobody really wants to die, they'd tolerate a little restraint for their family members in exchange for another 30 years of good living. And the ones who want to die can often be fixed with a little talking, and a little antidepressant, too. But if not, sometimes you just have to get them better if they are totally psychotic and really don't know what's real yet, and almost always they'll thank you later. We're always fighting for patient's rationality, a component of health, whether fighting brain infections, dementia, strokes, or schizophrenia.

Dr. J.L.

by Dr. J.L. on Thu, 06/30/2005 - 00:16 | **reply**

Fakers

Dear Dr J.L.

Is it your opinion that the post 'Science and Superstition', or 'On Fake Diseases', on **The World**, or some writings by me, here or elsewhere, carry the implication that people suffering from mental illnesses are fakers?

by **David Deutsch** on Mon, 07/04/2005 - 03:48 | **reply**

Confusing Premise of Question

Prof. Deutsch,
I don't understand the premise of the question you asked Dr. J. L.

You are saying,
"Secular mental health charities promote a view of the world based on the idea of mental illness."

And you claim that the idea of mental illness is "fictional" and "superstitious."

You say, "As we have noted before, mental illness is not a real illness."

Now you ask a question about people "suffering with mental illnesses" (?!)

How can one suffer from something that does not exist?
Please clarify.

Michael Golding

by Michael Golding on Tue, 07/05/2005 - 14:30 | **reply**

Re: Confusing Premise of Question

The idea is that the states in question do exist, but they are not illnesses.

Other examples of states that are not illnesses, but from which people do suffer are: inductivism, having a non-English accent, yearning for martyrdom as a suicide bomber, fear of a second heart attack.
The last of these is almost invariably caused by a disease, yet is not

a disease.

by **David Deutsch** on Tue, 07/05/2005 - 15:13 | **reply**

I think I understand what you are getting at.

OK.
When does a physiological state become an illness?
Must it evolve in some way?

If one takes a snapshot of someones body whom doctors call "type 2 diabetic", can a (very very detailed) snapshot document that type 2 diabetes is an illness, or does there need to be more?

It would seem that:
The smallest nanosecond of fear induced hypertension could not cause a second heart attack, so a nanosecond of fear is not an illness.

And the smallest nanosecond of hyperosmolarity in type 2 diabetes would not cause dehydration and hyperosmolar coma. So a very brief "state" of elevated blood sugar should not be an illness, either.

So, when does a physiological process become an illness, in your view?

by Michael Golding on Tue, 07/05/2005 - 16:46 | **reply**

What's An Illness?

What gets me is that I don't see psychologists as very interested in taking seriously what makes an illness and creating reasonable, precise criteria on the subject. Instead we have things like Asperger's Syndrome with it's catch-all set of "symptoms". When psychologists figure something out, maybe they'll interest me in helping out in their field. But at the moment I think other fields are more interesting.

(I am aware they do figure out the occasional thing, for example about how memory works.)

by a reader on Tue, 07/05/2005 - 22:54 | **reply**

Re: Excuse me?

What is the meaning of the quotation marks round “involuntarily” in **this** post above?

by **David Deutsch** on Thu, 07/07/2005 - 09:29 | **reply**

Re:Excuse me?

In the very few patients in whom this discussion is relevant, patients often change their mind about a procedure that at one point they say they did not want, but later say they are grateful for and were grateful for, and would want in the future under similar circumstances. Patient's conceptions of what is "voluntary" therefore changes.

So when does a physiological process become an illness in your view?

by Michael Golding on Thu, 07/07/2005 - 11:00 | **reply**

Professor Deutsch and Faking Mental Illness

Dr. J.L. asked me to respond to Professor Deutsch’s question about

why we think Professor Deutsch may assume that the mentally ill "fake" their illnesses.

Professor Deutsch says that when someone attributes risk for development of mental illness to hereditary factors, the mental illness could also be "100% due to the persons own choices". If the victims can choose mental illness "states" or behaviors, then they can decide to not choose them, as well. So people can choose to be more rational, or less rational, at will. But if everyone can choose to be more or less rational and the mentally ill choose to behave irrationally, and they say this causes them anguish, then they must gain something from placing themselves in a state that they say causes them pain. Or they must *fake* their symptoms (being in pain) in order to derive the benefits without having to feel the pain.

When Professor Deutsch says that the choices of the mentally ill can "100%" explain the seemingly large hereditary risk for major mental illness, he implies that even those with the least rationality, the mentally ill with schizophrenia for example, can fully choose to be rational. Therefore, if even the mentally ill have this fully rational capacity, then everyone has this fully rational capacity.

Should we say that British citizens "chose" to be bombed a few days ago because, but for their "choice" to use public transportation, the bombs most certainly would not have been planted on the buses. Such argument is absurd and cruel. Imagine the British victim's and their family's reaction to such an argument. Now imagine the reaction of families and patients with mental illness when Professor Deutsch declares their mentally ill children's miserable feelings their "own choice" (can you?). But if simplistic statisticians studied the bus-bombing phenomenon, a causal relationship between bus riding and bus bombing could be experimentally found, to a high degree of statistical significance. The choice to use public transportation does cause (in one sense, but not another) the planting of bombs on public busses.

Prof. Deutsch specifically warns (with his genes-for-black skin do not cause racism argument) not to make this type of logical/statistical error. Yet he either

1. Precisely makes this type of logical error, exactly when he is arguing against it,
or

2. He DOES ASSUME that everyone is equally rational, including the mentally ill.

If a choice has an unintended consequence 'X', then one should not say that a person "chose" 'X'. Dr. J.L. (and I) assume that at a minimum Professor Deutsch is using the word "choose" in a logical way. We assume that when Prof. Deutsch says that behaviors thought to be hereditary in origin could be better accounted for by patient's "choice(s)", we assume he is talking about patient's choices, not the *unintended consequences* of patient's choices.

A reader says, "Given that Asperger Syndrome is much more frequent in monozygotic than fraternal twins," there likely is a hereditary component. Deutsch responds, "In view of the above, it is perfectly possible for a given behavior to be 100% due to the persons own choices."

"Given behavior" must imply a behavior that is part of the Asperger's syndrome or it would have been irrelevant for Deutsch to mention it.

Since the mentally ill/developmentally disabled often report that they are in great psychological pain, then if Professor Deutsch

believes that these states come about as an intended consequence

of patients choices, then he either assumes patients are masochists, assumes they benefit from mental illness, and/or assumes they "fake" their symptoms for some type of gain. And yes, if people choose their patterns of behavior and their mental states, then he is also assuming that the mentally ill can choose not to exhibit mental illness behavior. If someone says heredity could explain an illness and Deutsch says patient's choice instead explains the illness, some of us take Professor Deutsch at his word.

If those with schizophrenia are in some respects the least rational, and if they can choose to simply change what they think, so can everyone else. So everyone has the capacity to be equally rational. Saying that mental illness is the choice of the mentally ill then blames the mentally ill, which is scientifically and ethically problematic.

It has been suggested to Dr. J.L. and me that perhaps when professor Deutsch writes about the mentally ill "choos(ing)" their mental illness behavior, that actually Professor Deutsch is saying that mental illness could be caused by the *unintended consequences* of patient's choices. But Professor Deustsch does not say this. Instead he says that an Asperger patient's behavior could be "100% due to the persons *OWN* choices." He specifically did not say that the patient's behavior could be "100% due to the UNINTENDED consequences of the persons own choices." I think Professor Deutsch knows the difference between something being the intended consequence and the unintended consequence of a person's choices.

If someone said that terrorism explains bus bombings, would it also be correct for Prof. Deutsch to respond that British citizens choose to use public transportation, so an alternative explanation is that British citizens cause bus bombing, "100%"? The maiming and killing on the buses were UNINTENDED consequences of riding the bus, as certain mental illness behaviors may be the UNINTENDED consequences of choices that people make. Saying that severe mental illness/developmental-disability is a consequence of a patient's "choice," involves the same logic as saying that getting blown up is a consequence of the British citizen's choice to ride a public bus. Such logic assumes that the intended consequence of a choice is the same thing as the unintended consequence.

So if someone chooses to handle meat products as a butcher, not knowing that a virus that causes schizophrenia contaminates the meat products, should we say that the person chose to develop schizophrenia by being a butcher? That's the same logical error as saying that if genes for black skin cause racists to decide to attack black people, then the genes for black skin cause racism! A reaction to a gene product causing black skin and a reaction to a choice to be a butcher cause the problems, not the genes for black skin or the persons choice to be a butcher. In arguing against an allegedly incorrect position of geneticists, Deutsch makes the identical logical error that he accuses the geneticists of making! The only difference is that the geneticists don't make the error, he does!

Dr. J.L. and I do not believe that Professor Deutsch is remarkably illogical. He has shown to us that he chooses his words very carefully. I believe that when someone says to Professor Deutsch that the risk for a set of behaviors is best explained by hereditary factors, and Prof. Deutsch responds that the illness can be due "100%" to the patient's "own choices", he means exactly that. Ultimately, Dr. J.L and I do not believe that Professor Deutsch would make the same logical error that he accuses the geneticists of making. We believe that when Dr. Deutsch says that the mentally ill choose their behaviors 100%, he is not talking about the unintended consequences of their choices causing painful mental states and behaviors, but rather the intended consequence

of their choice causing these problems.

So yes, when Professor Deutsch says that the mentally ill choose their behaviors 100%, he implies that the seriously mentally ill choose their reportedly horrible and painful mental states and irrational behaviors. And if the mentally ill are not masochists, then *he must believe that they are faking their reports of pain and suffering*, exactly as Dr. J.L. suggests, presumably for some type of gain. And if the mentally ill choose their mental states and their patterns of behavior, then they can also choose to be mentally healthy. So yes, this implies that everyone has the capacity to be equally rational. So per Professor Deutsch, not only do doctors create "fake" mental illnesses, the patients create "fake symptoms",

And yes, that's a highly inaccurate point of view, with immoral consequences.

by Michael Golding on Sun, 07/10/2005 - 12:55 | **reply**

Re: Excuse me?

when does a physiological process become an illness in your view?

It's not just processes: it could be states too, such as blindness.

Issues of terminology, in themselves, don't matter. What matters is what is being asserted about reality – especially when the morality of people's behaviour depends on what the facts are.

In the case of physical illnesses, it never matters, morally, where one draws the line between states that are or are not illnesses. Indeed, we take it for granted that doctors should treat many conditions that no one would call illnesses, such as pregnancy, or less-than-perfect features (in the case of cosmetic surgeons), but on other occasions refuse to treat conditions that everyone calls illnesses, for instance, if the patient refuses consent for the treatment – even if this is for profoundly irrational reasons such as religion.

Sometimes the law authorises doctors to do things to patients against their will. For instance, quarantine laws allow some patients to be detained even if they do not consent. However, in all such cases, proponents of the relevant law do not deny that they are advocating involuntary detention. Even if the plague-carrier should later regret having refused, and thank the doctors for having detained him or even forced treatment on him, no one concerned is in any doubt that refusal, and forcible treatment, did in fact take place.

If the conventional picture of the nature of mental illness is true, then the refusal of a mentally ill person is a different species of thing from that of a mentally healthy person. For the content of the former refusal is provided by the disease, while the content of the latter is provided by thought. It may be foolish or ill-informed thought. It may be superstitious thought, or irrational thought or downright wicked thought, but it is his thought, and in some situations this makes a big difference morally. For example, the deepest values of our society require that if a doctor detains or treats a patient against his will for a physical condition (disease or otherwise), on the grounds that the patient is foolish, irrational, ignorant or downright wicked, or on the grounds that he will probably thank him afterwards, the doctor will go to prison. In the case of a mental illness, all these justifications for using force on the patient would be valid, if the nominal wishes of the patient were not really wishes but symptoms.

by **David Deutsch** on Sun, 07/10/2005 - 22:53 | **reply**

Faking mental illnesses

Well, I don't think they do fake them. And the argument (given two comments above) that I do think so is a series of nonsequiturs.

The first one is:

> the mental illness could also be “100% due to the persons own choices”. If the victims can choose mental illness “states” or behaviors

A state could be due to a person's choices without the person having chosen the state. (Or being in any way culpable.)

by **David Deutsch** on Sun, 07/10/2005 - 23:02 | **reply**

No

"For example, the deepest values of our society require that if a doctor detains or treats a patient against his will for a physical condition (disease or otherwise), on the grounds that the patient is foolish, irrational, ignorant or downright wicked, or on the grounds that he will probably thank him afterwards, the doctor will go to prison."

Not true. 50% of lung transplant patients end up in restraints. They violently shake their heads "no" while they try to pull out the tube which saves their life. Doctors and nurses tie them down to save their life. And no one goes to jail. And the patients thank them later.

by Michael Golding on Mon, 07/11/2005 - 21:08 | **reply**

Re: No

Do those patients agree to the whole procedure (including being tied down, which they want), or are they abducted and transplanted?

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Mon, 07/11/2005 - 22:57 | **reply**

Re:Re: No

The tiniest fraction of a percentage of virtually anyones involuntary treatment, whether someone has an acute brain bleed or a lung transplant, is involuntary. No, most patients who are tied down do not initially agree to be tied down, but we save their lives nonetheless, as you would want your life saved if you were having an acute brain bleed and were refusing treatment. Go to any ER or intensive care unit if you would like to see what is done.

by Michael Golding on Tue, 07/12/2005 - 00:22 | **reply**

No

Sorry...first statement should be "The tiniest fraction of a percentage of anyones treatment, whether someone has an acute brain bleed with agitation, or a lung transplant, is involuntary"

Thanks.

by Michael Golding on Tue, 07/12/2005 - 00:41 | **reply**

Re: No

Performing a lung transplant or any other operation is illegal without the patient's informed consent. The consent document implies - and nowadays always includes a specific clause saying - that if the doctor should consider further procedures to be necessary while the patient is unconscious or too drugged to understand an explanation of them, or if time is too short to explain them, then the patient consents anyway. This form, and not the proposition that the patient would thank the doctor later, would constitute the doctor's entire legal defence, should the patient later attempt to sue or press charges.

If the patient refuses to sign such a form, the operation would be illegal. If the patient deletes or modifies the above-mentioned clause, the doctor may refuse to perform the operation, but if he does perform it, he will not be entitled to do things that the patient did not consent to. It is quite common for patients to specify exceptions to the standard consent form. For instance, people with religious objections to blood transfusions do it all the time. A doctor who overrode their refusal to consent would indeed be breaking the law.

In an urgent case where the patient is already unconscious or too drugged to understand an explanation of what surgery is proposed and why, their consent may be inferred in various ways. But if an unconscious or drugged patient has previously left instructions that he is not to receive the surgery, then he cannot legally receive it.

by **David Deutsch** on Tue, 07/12/2005 - 05:45 | **reply**

Consent forms

FYI, standard NHS **consent form**:

> I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health. I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures that I do not wish, without further discussion, to be carried out.

Standard **modified** NHS consent form, for patients who refuse blood transfusions:

> although it has been explained to me that in the course of or by reason of the said operation/procedure it may be necessary to give me a blood transfusion so as to render the operation/procedure successful, or to prevent injury to my health, or even to preserve my life, I hereby expressly withhold my consent to and forbid the administration to me of a blood transfusion in any circumstances or for any reason whatsoever

But of course you'd have to be crazy to sign the latter form, wouldn't you?

by **Editor** on Tue, 07/12/2005 - 05:57 | **reply**

Not So Simple

If one of your relatives fell to the floor screaming and confused in public, with obvious paralysis and weakness, with the beginnings of an immobile dilation of a pupil on one or both sides and paralysis; and this relative fought and screamed and kicked (as best as he can) and cursed to not go to the hospital and stay on the ground, the paramedics would involuntarily "abduct" your fighting and

screaming and kicking relative, tie him tightly to the stretcher, and promptly take him to the hospital. By the way, the family members usually scream and cry even louder, because of their appropriate concern. They demand action immediately!

At the hospital, after the appropriate CAT scan is performed, several holes would be (involuntarily) drilled into the skull (burr holes) to drain the blood and save his life. If successful, the patient and family member usually thank the doctor for involuntarily treating him.

Professor Deutsch, what does "inferred consent" mean?

by Michael Golding on Tue, 07/12/2005 - 11:04 | **reply**

Faking Mental Ilnesses

"A state could be due to a person's choices without the person having chosen the state (or being in any way culpable)."

OK.

If a person did not choose a certain "mental state" and is not "in any way culpable (for it)", is a person always responsible for his behavior that is a consequence of the "mental state"?

Let's say Joe is in a "mental state" in which he is actively psychotic but never did anything intentional (like abuse drugs) to create this state. Joe is hallucinating and fully believes and sees that Harry has horns and is attacking him with a knife, but actually Harry has no horns and is just offering him a cigarette. He hits Harry over the head with a chair to "defend" himself. Is Joe culpable?

by a reader on Tue, 07/12/2005 - 13:33 | **reply**

Culpable

If I'm not culpable for something, anything, am I culpable for the consequences of it? No.

It's better not to change words casually because it's not clear if you mean 'culpable' and 'responsible' to be the same thing, or if not what difference do you mean them to have?

CULPABLE adjective

deserving blame : sometimes you're just as culpable when you watch something as when you actually participate.

RESPONSIBLE adjective [predic.]

having an obligation to do something, or having control over or care for someone, as part of one's job or role : the department responsible for education.

being the primary cause of something and so able to be blamed or credited for it : the gene was responsible for a rare type of eye cancer.

THE RIGHT WORD

Responsible is an adjective that applies to anyone who is in charge of an endeavor or to whom a duty has been delegated, and who is subject to penalty or blame in case of default (: responsible for getting everyone out of the building in the event of a fire).

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Tue, 07/12/2005 - 16:03 | **reply**

Inferred Consent

One test is: what would he say if you had asked him yesterday? And the answer is he would like his life to be saved, and would not like his kicking/screaming to be interpreted as somehow meaning, "I want to die, please whatever you do, don't use medicine on me".

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Tue, 07/12/2005 - 16:10 | **reply**

Inferred Consent

Michael Golding "Is Joe Culpable?"

Dictionary Culpable -- Deserving of blame or censure as being wrong, evil, improper.

Elliot Temple "If I'm not culpable for something, am I culpable for the consequences of it? No."

Mr. Temple, Joe keeps hitting Harry in the head. What are you going to do? Shoule Joe be convicted and go to jail?

by Michael Golding on Tue, 07/12/2005 - 17:30 | **reply**

Culpable

If Harry kills someone, and I am not culpable, then I am not culpable for the consequences. If Harry is culpable, then Harry gets the consequences.

If I kill someone, and I am not culpable, then I am not culpable for the consequences. If Harry is culpable, then Harry gets the consequences.

Why would Harry be culpable for me killing someone? Who knows. Nevermind. I was only talking about the case where he really is.

BTW, this shouldn't be taken as an argument for some strange proposition. It's *what the word means*. The strange proposition is being made by whoever says "harry killed joe, but bob is culpable for the murder". Or in this case,

A state could be due to a person's choices without the person having chosen the state (or being in any way culpable).

You should declare that statement strange, not the meaning of culpable. And it *is* counter intuitive, and deserving of further explanation.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Tue, 07/12/2005 - 18:02 | **reply**

Mr. Temple

You haven't killed anyone (intentionally, to the best of my knowledge)

But we nonetheless have psychotic Joe hitting Harry. I presume, if you can, you intervene.

Joe is not that strong and Harry is not that injured. I'm asking what

you would do, to help Harry (or possibly Joe), in a situation where a psychotic person is hitting someone else. Would you call the police (most would). If you were a judge, what would you do?

by Michael Golding on Tue, 07/12/2005 - 20:07 | **reply**

Killing

Why do you think I haven't killed anyone?

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Tue, 07/12/2005 - 21:53 | **reply**

Yes

P.S. It does seem that the formulation is unuusal. I can come up with several explanations of Professor Deutsch's "choices" statement, but am not 100% sure which one he means. Perhaps he is referring to some reaction to a choice (e.g. a consequence of a choice that a. changes the brain, b. changes an internal semantic structure, or c. perhaps changes the reactions of somebody else); in such a way that the person could not predict the consequence of his choice and which subsequently renders the person unable to reverse course from a situation that is somehow not pleasant. Thank you for making the point that the language is a bit confusing.

by Michael Golding on Tue, 07/12/2005 - 22:00 | **reply**

Elliot the Killer

I doubt you have intentionally killed someone because on average most people have not, but not 100% sure. Are you in the military or a police officer?

And what about poor Harry and Joe? We'll use your word. Let's say Psychotic Joe thinks Harry has horns and is trying to stab him. But in fact Harry is trying to give Joe a cigarette. Joe is hitting Harry in the head.

You have declared Joe "not responsible"? because he is hallucinating an attack and defending himself (from his perspective).

What should be done? Harry is being hit in the head. Do you call the police? Should Joe go to jail?

On a slightly different topic
"But of course you'd have to be crazy to sign the latter form, wouldn't you?" Editors

Don't exactly know what "crazy" means in this context, but signing the form is not evidence of mental illness. It should, in almost all cases, be legally enforceable.

by Michael Golding on Wed, 07/13/2005 - 00:25 | **reply**

You have declared Joe "not re

You have declared Joe "not responsible"? because he is hallucinating an attack and defending himself (from his perspective).

What did I say that you are interpreting this way?

-- Elliot Temple

http://www.curi.us/

by **Elliot Temple** on Wed, 07/13/2005 - 01:08 | **reply**

Deserving of Blame

I put a question mark because I wasn't sure what you thought. Professor Deutsch had said "not culpable." You don't like this language.

OK. So if Joe is psychotic (and hallucinating) and sees Harry as having horns and sees a knife coming towards him and hears Harry saying he's going to kill him, but you (in the room) and Harry as well as everyone else in the room see Harry kindly offering Joe a cigarette, but Joe sees an attack and defends himself.....

Do you think that Joe is morally responsible for the attack?

Do you believe that he should be held responsible for the attack?

Do you think Joe deserves to be blamed?

by Michael Golding on Wed, 07/13/2005 - 02:17 | **reply**

David Deutsch did not say "no

David Deutsch did not say "not culpable" about the situation you describe. I did not say I dislike his language (I like it).

In general, people are culpable for their hallucinations, but without knowing the details, one can't be sure.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Wed, 07/13/2005 - 02:22 | **reply**

Faking Mental Illness

"A state could be due to a person's choices without the person having chosen the state (or being in any way culpable)"
David Deutsch

Professor Deutsch,
If a person did not choose a "mental state" and is not "in any way culpable (for it)" is a person always responsible for his behavior that is a consequence of the "mental state"?

Let's say Joe is in a "mental state" in which he is actively psychotic but never did anything unintentional (like abuse drugs) to create this state. Joe is hallucinating and fully believes and sees that Harry has horns and is attacking him with a knife, but actually Harry has no horns and is just offering him a cigarette. He hits Harry over the head with a chair to "defend" himself.

Is Joe culpable?

Thanks.

by Michael Golding on Wed, 07/13/2005 - 03:32 | **reply**

Re: Faking Mental Illness

There isn't enough information in the example as given to determine whether he is culpable or not.

Information that would be relevant would include: has he had

hallucinations before, and if so, what did he do about it when they were over? Was he aware of any other evidence, in advance of this incident, that he was at risk of having such a hallucination? Has he attacked anyone unjustly before? Has he unreasonably believed that others were attacking him before (or were planning to)? Is he, in reality, in danger of being attacked for some reason? Say the attack happened in a pub: has he previously held beliefs, or experienced emotions, that were wrong, when in pubs, or in crowds, or when people offered him cigarettes, or when he was unhappy? And so on.

To address one extreme case: this was a one-off event; nothing like it has happened to him before and he had no evidence that it would. Then he is not culpable. He may, however, be under a special obligation to take certain precautions, and to adopt certain policies about violence, in future. (The logic of the situation, though, is that the legal system would have great difficulty detecting his innocence. This is one of those rare cases where he might indeed be 'faking it' -- so the jury would have to decide whether to believe his claim to have had such a hallucination, and whether, given that he had it, he behaved reasonably. They would want to know whether he might have had some other motive for the attack, and whether there was any other evidence about whether he might be lying.)

To address the opposite extreme case: He has attacked three people in pubs before, always unjustly (with or without hallucinations). Then he is culpable (unless there are further facts that turn the situation round again).

by **David Deutsch** on Wed, 07/13/2005 - 08:00 | **reply**

Enough already! Ideas have consequences!

I am a Professor of Family Medicine and a clinician, in practice now for 18 years. I find this whole discussion deeply disturbing from a number of perspectives. Some very intelligent philosophers, quite ignorant of the science and practice of medicine, attempt to argue either that mental illness does not exist, or that the behaviors accompanying the state of 'mental-illness' are (free) choices of the individuals displaying the behaviors. I wish I had the time to reply to the many scientifically erroneous assertions of Professor Deutsch and others on this blog. I do not, so I will be brief.

That bipolar disorder and schizophrenia are heritable brain diseases is not in question amongst scientists who study this area. The brain is an organ susceptible to disease. Diseases of the brain lead to specific, predictable clinical syndromes. Would Dr. Deutsch call OCD in a child triggered by a strep throat (one of the so -called 'PANDAS' conditions) a brain disease, but a condition with the exact same manifestations, affecting the same portions of the brain (as detected by neuroimaging) in an adult a "choice"?

From a physician's perspective, it is semantics only whether one chooses to call syndromes like OCD, major depression, schizophrenia, and bipolar disease 'mental illness' or 'brain disease'. I don't believe there is a distinction. We do not at this point understand why some genes for brain disease have incompletely predictable penetrance patterns (they don't always pass from one generation to the next), and why these same genes may have variable expressivity (the conditions that result from the gene problem may look somewhat different from individual to individual), but this is true of all manner of genetic diseases. Certainly environmental factors play a key role too, but truly the situation is not 'nature vs. nurture'.... it is 'nature AND nurture'. I do not

dispute that human behavior is complex, and that it is simplistic to

say that all we are is chemicals. But we are certainly, at least in part chemicals also.

Mind-Body dualism is not helpful at all in the exam room, and when promulgated as truth by intelligent people like many of the participants in this forum, may result in terrible societal consequences. Saying "it's all in your head" allows society to discount and disregard the suffering of those with mental illness. It causes lawmakers to distribute financial resources toward 'real' illnesses like cancer and diabetes, but not to 'fake' illnesses like schizophrenia. It allows people to be cruel bigots to those with mental illness, because if one believes that the condition is all 'in the head', then the affected person should be able to just 'decide' to be well, and the fact that he or she doesn't 'decide' to be better means that s/he chooses his plight. It causes sufferers of these devastating diseases to feel responsible for and guilty about their conditions. It causes them to fear seeking treatment because someone may label them 'crazy'. This why I feel so strongly that using words like "superstition", "fake" illness, to describe these conditions, and comparing belief in mental illness to "creation science" (and particularly saying that a hereditary explanation can as easily be explained "due to....choice", leads to grossly immoral consequences.

Michael Golding and the other physicians in the discussion are correct that repeating myths about mental illness harms people. Prof. Deutsch and others are not aware that people stop life saving medicines and treatments because of these types of popular expressions against mental
illness.

Finally, it is simply not within the norm of academic discourse to use the kind of inflammatory language I see in this blog. Repeating and reinforcing popular, but false cultural messages leads to needless suffering and death. I love being a family doctor. For years, I have noticed how rewarding it is to diagnose and treat many of these conditions. Treated properly, people get better, often very rapidly, and say things like "so this is what it is like to feel normal!". I wish I had the same power with diabetes, cancer, and heart disease.

by JR on Wed, 07/13/2005 - 13:39 | **reply**

Re: Enough already! Ideas have consequences!

> I wish I had the time to reply to the many scientifically erroneous assertions of Professor Deutsch and others on this blog. I do not, so I will be brief.
>
> That bipolar disorder and schizophrenia are heritable brain diseases is not in question amongst scientists who study this area.

Could you please provide a link to the erroneous assertion that this is intended to contradict?

by **Editor** on Wed, 07/13/2005 - 14:42 | **reply**

Faking Mental Illness

Thanks for your response. Makes sense.

To address one extreme case:

"This was a one-off event; nothing like it has happened to him before and he had no evidence that it would. Then he is not

culpable."

Not exactly sure what "one-off event" means. Do you mean an event that happened once and we know that it (and events similar) will never happen again or do you mean a first-time event?

Thanks.

by Michael Golding on Thu, 07/14/2005 - 00:06 | **reply**

Fake Illnesses

Professor Deutsch,

Put another way, if Joe continues not to understand that his attack was unprovoked and wrong, even after the attack, and he continues to believe that the CIA is trying to control him and that everyone who explains that Harry is innocent is in league with the devil; and indeed Joe sees their horns and hears their voices threatening him (though they actually do not), and Joe honestly believes that Harry was and is trying to kill him because he saw him doing that, is Joe culpable for hitting Harry?

by Michael Golding on Thu, 07/14/2005 - 01:24 | **reply**

Mental Illness

At first, I couldn't see much point in saying mental illness doesn't exist and that it was something that could be used interchangeably with brain disease. It finally occurred to me to look at it another way:

With physical symptoms, there's usually some idea of harm they are doing to the person's body. With "mental illness", a set of "symptoms" based on behavior is likely to be very biased by what people think of as "normal" and people might be very wrong about what should be normal.

With behavior/mental "symptoms", sometimes what is harming the patient are other people's reactions to it. For example, some people might consider being homosexual "abnormal" and think of it as something that should be "treated" to prevent the tendeny to behave in "self-harming" ways. In reality, I think such a person is likely healthy and trying to treat him or make him behave "normally" is likely harmful to him.

I can't be sure of this, but I think David's aversion toward using the term "mental illness" could actually be partly out of respect for individuals who are different but possibly not "diseased". Then again, once it is understood that a "mental illness" is actually normal, people could always recategorize it that way. This can be difficult for such people because the stigma of it being a mental illness can take a long time to go away within a culture. It still seems like there ought to be a term for labeling a set of behaviors/symptoms that we think are unhealthy/bad for the patient or could cause them to have bad interactions with people. I think illness offers the benefit of seeing it as something the person is working to have treated or overcome. I'm not sure what other term would be appropriate. I don't think being "mentally ill" would mean that a person has no responsibility or culpability. As David suggests, the person could be held responsible for harm he causes as a result of his failure to obtain and adhere to treatments.

As for deciding about culpability and responsibility, I think it's trickier than David has suggested, so it would be great if he'd expand on it a bit.

What if a person is unaware of the effects of a brain

disease/difference when he does something harmful to someone else? David suggests such a person wouldn't be culpable but he should seek to get help.

What if getting help is also risky? A person admitting to a mental difficulty could be barred from employment and find themselves rejected socially.

How much risk is the individual's responsibility to take on? Doesn't society have some responsibility for creating an environment where admitting to and receiving treatment is so risky?

Suppose a person is aware of his condition and takes what he thinks are reasonable measures which turn out to be insufficient. For example, he only has noticeable altered state type symptoms when he eats a particular food. He doesn't take medication but is careful to read labels and ask about ingredients in dishes in order to avoid the food. Despite his care, he unknowingly ingests some one day and as a result is in a bad mental state and harms someone. What then? Is the person "culpable" or "responsible"? Should people err on the side of taking whatever drugs or therapies offered to avoid harm even if the treatments are risky? (some anti-depressants have been linked with higher rates of suicide and aggressiveness, from what I understand) Would such a person then be responsible for being even more selective about his food choices (say only eating specific things that he's tested on himself with someone to supervise him) or would it be sufficient to tell everyone he knows about this risk and help him keep a look out for symptoms? Is he cupluble for mistakes in treating his condition? Are treatment decisions something that should be assigned to another party?

What if part of a person's condition prevents him from being able to accurately assess the need for treatment? A person who is "manic" might feel "great" and not see any need to be treated and yet the person's behavior could become very harmful to himself and others. The same person might, in a different state, might be quite calm and non-violent and shocked by his own behavior in the past and not be able to understand how he could have done such things. How would one tell the difference between a "manic" person and a normal person who is simply making some bad choices because .. well why?

Becky Moon

by **beckyam** on Fri, 07/15/2005 - 16:02 | **reply**

Re: Mental Illness

Becky Moon wrote:

> What if a person is unaware of the effects of a brain disease/difference when he does something harmful to someone else? David suggests such a person wouldn't be culpable but he should seek to get help.
>
> What if getting help is also risky? A person admitting to a mental difficulty could be barred from employment and find themselves rejected socially.

Any system for judging whether or not people are culpable for certain acts is inevitably imperfect. Of course, we should try to improve our means of judging culpability and what we do to people who are culpable for criminal acts but that is a difficult task.

I should add that if a person experiences some difficulty because of

a brain disease which is cured by medication then he should be able to get a job and a social life. This would be a lot easier if psychiatrists did not conflate having unfortunate ideas about how to live one's life with brain diseases. The former is often a more serious problem than the latter, partly because bad ideas can be difficult to get rid of and partly because psychiatrists ignore these real problems in favour of pseudomedical gibberish. The answer to this problem is for psychiatrists and others to start admitting that some people have problems because of their ideas, to stop coercive practises for people who have not been convicted of criminal offences and for people to start looking for solutions for such problems much more seriously than they have to date.

by **Alan Forrester** on Sat, 07/16/2005 - 01:34 | **reply**

Re: Enough already! Ideas have consequences!

JR wrote:

> Diseases of the brain lead to specific, predictable clinical syndromes. Would Dr. Deutsch call OCD in a child triggered by a strep throat (one of the so -called 'PANDAS' conditions) a brain disease, but a condition with the exact same manifestations, affecting the same portions of the brain (as detected by neuroimaging) in an adult a "choice"?

Your chosen example of OCD and strep throat and so on is a perfect example of the muddle people get into when they start thinking of undesirable behaviours as caused by brain diseases. Sometimes when the body responds to strep throat it gets things a bit wrong and antibodies attack the basal ganglia making them swell up. People with this specific medical condition **supposedly** behave in ways that psychiatrists characterise as obssessive more often than other people. Does it follow that this swelling causes OCD and therefore that it is a brain disease? No. Suppose that the swelling induces a sensation that makes people feel as if they are dirty or greasy when in fact they are not. then these people might wash their hands obsessively, or engage in other hygeinic practises obsessively. Or it might induce a sensation that they associate with feeling panic, it might make their chest feel slightly tight or whatever. However, some people might just ignore these sensations and get on with their life, so the 'mental illness' could be caused by the person's interpretation of certain sensations and not by the swelling. Treating people who engage in certain behaviours obsessively as if they had a medical illness is crude and scientistic.

> Mind-Body dualism is not helpful at all in the exam room, and when promulgated as truth by intelligent people like many of the participants in this forum, may result in terrible societal consequences. Saying "it's all in your head" allows society to discount and disregard the suffering of those with mental illness.

Mind-body dualism is nonsense. Nor have we said anywhere that it is true. Suppose I'm watching that dreadful National Lottery programme on the television. I might say that what I am watching is drivel, but I will not say that it is rubbish because my television is malfunctioning, it is rubbish because the programme is ill-conceived garbage. Needless to say, I do not believe in television/programme dualism. I do not disreagrd the suffering of people who have ideas that make them unhappy, but I will not say that their bad ideas are brain diseases.

> It causes lawmakers to distribute financial resources

> toward 'real' illnesses like cancer and diabetes, but not to 'fake' illnesses like schizophrenia.

I don't want lawmakers to give out money for research into any disease. However, I even more strongly do not want them to underwrite a coercive, scientistic fantasy that gets in the way of people tackling their personal problems.

> Treated properly, people [diagnosed with mental illnesses] get better, often very rapidly, and say things like "so this is what it is like to feel normal!".

When Catholics who feel distant from God take communion they may feel better and closer to God afterward. Therefore, God exists, as does an illness called 'being distant from God' for which communion wafers and wine are the treatment. Sadly, Medicare does not cover these vital medical treatments. Quick, write to your Congressman!

by **Alan Forrester** on Sat, 07/16/2005 - 02:14 | **reply**

Medical Science?

A recent series of court cases in London prove that it is possible to rise to the top of the medical profession without having **any clue** about what scientific evidence is.

by a reader on Sat, 07/16/2005 - 06:18 | **reply**

Re: Fake Illnesses

> if Joe continues not to understand that his attack was unprovoked and wrong, even after the attack, and he continues to believe that the CIA is trying to control him and that everyone who explains that Harry is innocent is in league with the devil; and indeed Joe sees their horns and hears their voices threatening him (though they actually do not), and Joe honestly believes that Harry was and is trying to kill him because he saw him doing that, is Joe culpable for hitting Harry?

All these things happened after the attack. What happens after the attack cannot possibly affect whether someone was culpable for it.

It may be that what happens after the attack provides indirect evidence of what happened before and during it. But it's what happened before and during it that determines whether the attacker is culpable.

by **David Deutsch** on Sat, 07/16/2005 - 19:03 | **reply**

Culpability

People who are convicted of crimes should be locked up unless there are factors which indicate otherwise.

These factors cannot be summed up as whether someone was culpable for committing the crime. For instance, someone might steal under circumstances that are regarded as understandable but still criminal and recieve a suspended sentance. (A poor person stealing jackets for their children in the middle of winter, maybe).

Hallucinations may or may not make it improper to jail someone. Someone who didn't know he sometimes hallucinates, fully regrets his crime, and intends to compensate for his hallucinations in the

future should not be locked up. These things happen, and people

shouldn't be jailed for them.

But someone who commits a crime while hallucinating and later categorically denies having committing it, has no remorse, or has no intention of compensating for his hallucinations in the future is just as criminal as they were when they committed the crime. There is no reasonable case for releasing such people.

It may be reasonable to treat prisoners who committed crimes under different circumstances differently, just as some prisons treat violent and non-violent offenders differently.

None of this depends on medicalizing mental problems or justifies locking people up who have not committed any crimes.

by **Woty** on Sat, 07/16/2005 - 20:26 | **reply**

Mental problems are real

Madness exists. Difficult mental problems exist. There are ways out of such states and problems, and they have to be found and created. People have to make choices and find solutions to their problems, and in many situations need a lot of really good help and support.

What people do not need is false medicalization of their problems. Mental problems, even deepset and difficult ones, are not diseases and cannot be fixed by medical intervention. Forcing people to comply with a false model of their problems can actually make it harder for them to find ways out of them.

(NB: proponents of the illness model advocate literally forcing people to comply with this model, not just trying to convince them that they are ill. It is disingenous to argue that asserting that mental problems are non-medical is the same type of act as imprisoning people in mental hospitals.)

by **Woty** on Sat, 07/16/2005 - 20:46 | **reply**

Medical Intervention

"Mental Problems, even deepset and difficult ones, are not diseases and cannot be fixed by medical intervention."
Woty

I'm not precisely sure what you mean. Are you saying that physicians trained to prescribe medication cannot treat bipolar illness? schizophrenia? major depression?, obsessive compulsive disorder?, medication induced depression?, medication induced psychosis? social phobia? panic? Tourettes? Alzheimers dementia?

I don't know what you mean by "false medicalization of their problem."

If you are saying that doctors trained to prescribe medication cannot improve the condition of those with the above conditions (considered mental illnesses), you are literally saying that thousands of studies are ALL WRONG.

Do you have evidence supporting this interesting assertion?

by Michael Golding on Sun, 07/17/2005 - 01:14 | **reply**

Illness model gets you off the hook

Woty said:

> Forcing people to comply with a false model of their

> problems can actually make it harder for them to find ways out of them

I bet that such forcing does occur, but also that a large proportion of supposed mental patients are willing from the start to embrace the illness model precisely in order to avoid addressing their real problems.

by **Tom Robinson** on Sun, 07/17/2005 - 01:31 | **reply**

Medicalization

Here are some OCD symptoms:

> Unfounded fears of contracting a dreadful illness
> Excessive concerns about dirt and germs (including the fear of spreading germs to others); and environmental contaminants, such as household cleaners
> Feelings of revulsion about bodily waste and secretions
> Obsessions about one's body
> Abnormal concerns about sticky substances or residues

From here: http://www.brainphysics.com/checklist.php

Notice each and every one is about undesirable behavior and ideas. While there is such thing as brain disease, there are "mental illnesses" that are actually behavior people disagree with. Those shouldn't be medicalised.

If you want to discuss studies, please find one (just one will do) with a valid methodology and say briefly how it contradicts my position.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Sun, 07/17/2005 - 01:48 | **reply**

Re: Fake Illness

"To address one extreme case: This was a one-off event, nothing like it has happened to him before and he had no evidence that it would. Then he is not culpable."
David Deutsch

"if Joe continues NOT TO UNDERSTAND that his attack was unprovoked…"
Michael Golding

"All these things happened after the attack. What happens after the attack cannot possibly affect whether someone was culpable for it."
David Deutsch

Thank you so much for responding. I assume that from your statements above that you believe Joe continues to be "not culpable."

Professor Deutsch,

Do you think it is possible for someone like Joe to continue to *not understand* an explanation given to him concerning why it was wrong to hit Harry, despite Joe's best efforts? In other words, do you think it is possible for someone like Joe to hallucinate so vividly and to be so paranoid and delusional, that he believes
1. that those explaining what actually happened to him are in league with the devil and the CIA and are trying to harm him, so he shouldn't listen to them when they talk about Harry being a nice

man who was just offering him a cigarette?

2. that actually Harry *was* trying to stab him with a knife because he (Joe) saw the knife and he (Joe) heard Harry threaten him with it?

Is it possible that given Joe's hallucinations, Joe's best logical efforts lead him to believe that Harry was and is trying to hurt him? In short, is it possible for someone like Joe to continue to *not understand* that what he did was wrong?

Thanks. Have a great day.

by Michael Golding on Sun, 07/17/2005 - 03:27 | **reply**

Medicalization

Ahh. Mr Temple, are you aware that those with OCD *DO NOT WANT* their "undesirable behaviors and ideas"? They ask us to help them stop washing their hands 700 times per day, for example. Or in more extreme cases, they ask to not die, because they have to do so many rituals before they take a shower, that they can't take a shower because their rituals require more than 24 hours to complete so they haven't showered in two years. They are encrusted with disease causing organisms, they are not eating much because they don't have time, and they are on the verge of death.

Those with OCD are, in general, completely rational people. They ask us to help them eat and take a shower so they can have a little bit of a normal life.

Almost by definition, they would not have OCD unless the patient said the rituals were interfering with their life.

For scientific articles, read articles in the American Journal of Psychiatry, Biological Psychiatry, Annals of Psychiatry. Read articles on Psychiatric subjects from the Journal of the American Medical Association, the New England Journal of Medicine etc.

If you are serious, I will provide some articles that may be interesting!

Take care.

by a reader on Sun, 07/17/2005 - 14:08 | **reply**

ocd

They have conflicting ideas about hand washing. Their ideas (overall) may very well be a mess, and they may want help. That doesn't mean they need medicine, or that medicine can help. It's fully possible all they need is advice/knowledge.

Do you think any medicines contain knowledge about washing hands (a human activity)?

I don't think I'm serious the way you mean, because I already know what these articles are like. I want you to choose one (online), not me, so that you won't say I've chosen a bad one to criticise.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Sun, 07/17/2005 - 14:54 | **reply**

OCD

I think a person having a particular habit or behavior that they want

to stop but also can't seem to make themselves stop doesn't make it an "illness". It seems like it would be better to first approach it as a problem they want solved. It might be caused by a brain disease, it might be related to a particular set of ideas or experiences, or it could be contributed to by both. The solution to their problem could be medicines or ideas or both. While I don't think a medicine can change a person's ideas directly, I think it could change their emotional state.

At the least, I think it might be possible to make a person feel more or less "extreme". In the hand washing example, the person might have a fear of germs. The experience of the fear could be very mild or it could feel very important and urgent and some of that feeling could affected by other factors - lack of sleep, lack of food, other things going on in life. Suppose a medication made the person feel less anxious about things overall. The person is then able to focus more on his thoughts and better prioritize them, feel less anxious (and then feel less need to wash hands - something that might seem comforting in a way), break his hand washing pattern, and possibly even change his mental state overall to the point where he can drop the medication and have his problem solved. This could happen without his even understanding that's what's going on.

Becky Moon

by **beckyam** on Sun, 07/17/2005 - 16:59 | **reply**

medical intervention

> I'm not precisely sure what you mean. Are you saying that physicians trained to prescribe medication cannot treat bipolar illness? schizophrenia? major depression?, obsessive compulsive disorder?, medication induced depression?, medication induced psychosis? social phobia? panic? Tourettes? Alzheimers dementia?

Most of the problems you list are not dysfunctions of the body, and cannot be fixed by fixing the body. So no one can treat them, even if they have been trained to prescribe drugs.

However, psychiatry has established some useful rules of thumb over the years, and people with problems are often genuinely helped by drugs. For this reason, involvement with psychiatry is often a good choice for people with serious problems to make. (Although by no means always should people who would be diagnosed with the conditions you listed if they consulted a psychiatrist seek psychiatric help.)

> I don't know what you mean by "false medicalization of their problem."

Mental problems are not medical conditions. They are not dysfunctions of the body. People who have serious mental problems should not be told that they are simply ill and that fixing their bodies will fix their problems.

by **Woty** on Sun, 07/17/2005 - 17:48 | **reply**

Madness is real; but it's not an illness

Debilitating behavioural syndromes such as schizophrenia, manic depression and eating disorders are real. But it's highly tendentious to call them illnesses, because the prevailing theories about their causes, their consequences and their remedies are all morally very controversial. By calling these syndromes "illnesses" we gloss over that controversy and hand over authority to adjudicate on these moral issues to a "priesthood" of psychiatrists who lack any special

moral insights for dealing with them. While there exist some wise and humane psychiatrists and therapists, as an objective body of transmissible knowledge, psychiatry is, as Szasz rightly says, just like alchemy.

However, it would be ridiculous to suggest that just because the prevailing psychiatric theories are wrong, serious mental disorders don't exist. They exist all right; it's just that they are not illnesses in any useful sense of the word. Having said that, we cannot entirely de-couple the management of these problems from the medical profession, because prescription-only medication has a legitimate role to play in the management of mental disorders. Moreover, as some behavioural disturbances are caused by genuine illnesses such as thyroid malfunction, brain tumours and Alzheimer's, it makes sense for doctors to be involved in the evaluation of certain kinds of mental/behavioural disorders.

On the subject of culpability, I think there exists a lot of confusion about what this really is. People tend to assume that culpability is a fundamental quality like right and wrong. I don't go along with that. I think that assigning culpability is basically a way of coming to feel OK about the degree of coercion against a culprit that we judge to be optimal from a societal point of view. In other words, we deem people culpable in proportion to how severely we want to punish them or deter them or others. And this is strongly influenced by social trends and changes in our factual knowledge.

For example, whereas once it was deemed exculpating to have been drunk when causing a traffic accident, more recently the trend has been to consider inebriation an inculpating factor. What this boils down to is that society has decided to increase the degree of deterrence against drunk driving, in order to exert a stronger influence on drivers to change their behaviour regarding drinking and driving.

It follows from this conception of culpability that a person's degree of culpability is a function of how susceptible that category of persons is to being deterred. That's why, generally speaking, the madder people are, and also the younger children are, the less culpable they are deemed to be. But culpability is not the only legitimate reason for coercing culprits. Sometimes we are justified in incarcerating people who are dangerous to others, even if we do not deem them culpable. But this kind of decision ought to be made by legislators and judges, not by psychiatrists and psychologists.

-- This comment was first posted in response to Becky's post on **Mental Illness**.

by **Kolya** on Sun, 07/17/2005 - 19:10 | **reply**

Re: Mental Illness

Ms. Moon,
I enjoyed reading your thoughtful post.

"At first, I couldn't see much point in saying mental illness doesn't exist and that it was something that could be used interchangeably with brain disease. It finally occurred to me to look at it another way:"
Becky Moon

Shucks! Let me try to convince you to accept your former greater wisdom. Or at any rate, let me try to convince you that serious mental illness implies underlying brain disease, involves peoples choices and is affected by cultural phenomenon in the same way that type 2 diabetes implies the existance of an underlying

endocrine disease, but also involves peoples choices and and is

affected by cultural involvement.

Age adjusted prevalence of diabetes in the United States increased 19% between 1980 and 1996 and incidence increased 18% (CDC). Since genes can't change that rapidly, cultural phenomena explain the increasing incidence and prevalence of diabetes in the United States. Actually, the risk of developing serious mental illness like bipolar illness, OCD, or schizophrenia, is increased far less by peoples choices and their interaction with others than type 2 diabetes, which in younger people is very much caused by peoples choices and their interactions with others, rather than genetics per se. The emergence of diabetes in older people, however, is very much a purely biological illness, like bipolar illness, schizophrenia, obsessive compulsive disorder, and also several other major mental illnesses like major depression.

But type 2 diabetes in young people is *still* a real illness, even though a substantial part of the risk of development of diabetes in someone who is 15 years old, is caused by his interactions with others and his consequent choices (eating too much and not exercising). Type 2 diabetes is a real illness in young people even if it is caused primarily by interactions with others because,

1. People are not intentionally causing diabetes in others (people just want to sell each other bad food and a sedentary lifestyle!)…but even if they were intentionally causing it….

2. The consequences to a person of a cultural phenomenon increasing the risk of development of diabetes, is a deleterious change in physiology that can lead to injury and death.

In my opinion, whether an illness is caused by an interaction with others or not, should not matter if the consequences to the person are a potentially permanent change in physiology which shortens his life and damages his organs. For example, even if Fred deserves to be punched in the nose, he still may have a crushed maxillary sinus from the punch, and a crushed maxillary sinus is certainly an illness, which should be treated by doctors.

So whether certain types of mental illness are caused by an interaction with other people should not be relevant, if such interaction causes a substantially increased risk for development of an abnormal physiology and if this pathophysiology shortens peoples lives and damages their organs. If obese children now are developing type 2 diabetes which damages their kidneys, if someone is punched in the nose and the damaged maxillary sinus is now prone to infection, or if someone is cruel to someone else and the victim becomes depressed, and this damages their heart; and if all of these are caused by interactions with other people, why is the depression the only one that is not an illness?

To use Mr. Forrester's analogies: In all of the above examples, the "programming" of the computer (or TV) could be bad. The person who gets punched could have failed to learn how to be nice to people. The child who gets type 2 diabetes could have failed to learn how to exercise and eat properly. The person who becomes depressed may have failed to learn how to deal with the cruel behavior of others. But in all the cases mentioned above, the "programming" failures damage the "computer hardware" (causing infections in the sinuses, damage to the kidney, and damage to the heart.) In short, the software damages the hardware.

The situation is actually a little more complicated than that. Genetic vulnerability to an illness makes the bodies organs more vulnerable to enviornmental influence. For example, the risk for developing type 2 diabetes and major depression is strongly influenced by

genetic factors. In terms of Mr. Forrester's excellent analogy, some

computer hardware is more vulnerable to attack by malicious software.

For those who like "meme" language, some memes form symbiotic relationships with organs and genes, some are commensal with them, and some are parasitic on them. Mr. Forrester's possible small conceptual error (with big implications!) is to apparently assume that memes form only "commensal" and perhaps "symbiotic" relationships with people, while ignoring the possibility of a parasitic relationship. In such a situation, one can develop a mental illness with no biological predisposition at all, which nonetheless causes serious organ damage. Thoughts and feelings change nerves (often permanently) and change hormones (often permanently), and these changes subsequently damage organs. The work of Nemeroff (JAMA) and others, in primates (mildly) experimentally abused as infants, and women abused as children, provides ample scientific evidence of life-long damage to organ systems due to early childhood stress.

"With physical symptoms, there's usually some idea of harm they are doing to the person's body."
Becky Moon

Ms. Moon, you may be confusing cause and effect, just a little, in this statement. Physical symptoms don't (in general) cause harm in a person's body, they are a consequence of harm. For example, if someone says that he feels like scratching a small vesicular eruption that developes on his trunk after ingesting a new medication, the allergic reaction is the cause, but the "symptom" is the feeling that one needs to scratch. The need to scratch and the vesicular eruptions are effects (not causes) of the allergic reaction.

Serious mental illnesses profoundly damage the body, more so than most illnesses that people usually think of.

1. Major Depression increases the risk of developing heart disease, increases the rate of progression of heart disease, and increases the rate of death from heart disease . Physiological changes associated with depression and with adverse cardiovascular outcomes include increased platelet aggregability, decreased heart rate variability (roughly "parasympathetic" or relaxing neurological input to the heart vs. "fight or flight input"), and exaggerated cardiovascular reactivity to situations that provoke mental stress.

2. Major Depression and several other mental illnesses (e.g. PTSD) are strongly associated with increased psychological and physiological reactions to stressful situations. Individuals with above average sympathetic nervous system responses to stressful situations have an increased risk of developing atherosclerosis, of experiencing ischemic episodes once coronary artery disease (CAD) is present, and ultimately of dying once CAD is established.

I placed a brief reference list at the end of this section, if someone is interested in some of the reference papers supporting what I am saying, But there are so many more if someone is interested in the overwhelming scientific evidence supporting the contention that mental illnesses like major depression severely damage organs.

3. Major Depression damages the hippocampus (involved in memory) and multiple other areas of the brain (if you want more information let me know or I will be creating a laundry list of brain parts, and another laundry list of references). Suffice to say that the parts of the brain damaged in major depression correspond with the symptoms created, if for example a stroke damages the same part affected by the depression. Animal models also provide near perfect confirmation of these damaged brain parts causing unusual

behaviors. For example, we used to say that Major Depression

causes a “pseudodementia” of depression but now we know that “pseudodementia” of depression, if it goes on long enough, actually progresses to an actual dementia of depression.

Most readers have felt nervous enough to sometimes not remember the details of questions when they are about to take a test. A number of brain chemicals actually change the flow of blood and other parameters, away from certain memory centers during stress, and in addition, various “fight or flight” chemicals interfere with neuronal funtion that allows retrieval of memories. Furthermore, many fight or flight hormones are neurotoxic and ultimately kill nerve cells, for example associated with short-term memory. So unlike what still is being taught in some psychology classes, sometimes “pseudo-dementia” of depression is not a “pseudo” dementia at all, but an actual dementia with permanent loss of (particularly) short-term memory function.

4. Individuals with schizophrenia often appear perfectly normal as children and young adults. They graduate from high-school, begin a promising college education, but for unknown reasons they suffer their first psychotic break, and may hallucinate, and become paranoid, usually as late adolescents. Within 3 months, the brain of a young person just developing this illness, will shrink the equivalent of the amount one sees with a small stroke (an average of 11 cc’s) (Lieberman JA, ACNP 2002).. And the patient loses approximately 15 points of IQ function (depending upon the study) in a few months, exactly the kind of results one would expect from certain types of acute brain injury. And, these are also the types of changes you see with a stroke in certain areas of the brain. Why is the acute brain shrinkage from a stroke the consequence of a “real” phenomenon, but the acute brain shrinkage from schizophrenia a consequence of a “Superstition”, according to Mr. Alan Forrester. How can a “superstition” shrink a brain?

5. Those with bipolar illness have 2-3X increased risk of cardiovascular (e.g. heart attacks), endocrine (e.g diabetes) and neurovascular (e.g. stroke) death (Osby, 2001). And patients die an average of 9 years earlier (Hirschfield, J Clin Psych, 2003).

“With physical symptoms, there's usually some idea of harm they are doing to the person's body. ..”
Becky Moon

So yes Ms. Moon, one would expect that if aspects of mental illnesses are brain diseases, one would expect systemic physical effects, and indeed that is exactly what you see!

“With behavior/mental "symptoms", sometimes what is harming the patient are other people's reactions to it. For example, some people might consider being homosexual "abnormal" and think of it as something that should be "treated" to prevent the tendeny to behave in "self-harming" ways. In reality, I think such a person is likely healthy and trying to treat him or make him behave "normally" is likely harmful to him.”
Becky Moon

Very perceptive comment, in my view. I agree with you 100%. Homosexuality is not consdered an illness or a disability, nor should it be. Aspergers, Autism, and Mental Retardation are not considered illnesses, either, nor should they be, but are considered disabilities. Although psychiatrists don’t treat these conditions, I venture to say that most psychiatrists would not consider congenital deafness or congenital blindness to be illnesses, either! I will explain why these distinctions are made,in a later post.

I will also respond to some of your other interesting comments in

one of my next posts.

Thanks.

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15. Matthews KA, Owens JF, Kuller LH, et al. Stress-induced pulse pressure change predicts women's carotid atherosclerosis. Stroke 1998;29:1525-1530

by Michael Golding on Sun, 07/17/2005 - 19:58 | **reply**

Depression

1. Major Depression increases the risk of developing heart disease, increases the rate of progression of heart disease, and increases the rate of death from heart disease.

But so does stupidity.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Sun, 07/17/2005 - 20:41 | **reply**

OCD

Hi Ms. Moon,

I would prefer not to discuss OCD in depth because it is the most counterintuitive of perhaps all the psychiatric illnesses, and so would be counterproductive to discuss with individuals who appear not to have had the opportunity to read as much about most psychiatric illnesses and perhaps have not had that much experiences with individuals with psychiatric illness.

I really enjoyed your other comments and perhaps will pay more attention to them and less to the OCD stuff, if OK with you.

Suffice to say I can see how someone would believe that OCD is a "problem" that needs to be "solved" but not an illness. "Panic Disorder" and "Social Phobia" (not particularly genetically based), for example might be considered "problems" that need "solutions", but not OCD.

A very conservative estimate of genetic risk for development of OCD is 50%, and more recent studies are finding a far higher genetic involvemnet. OCD is more genetically based than schizophrenia or major depression. (And no, those with OCD do not look differently than others, so these findings cannot be explained away by "gene-environment" correlation!)

The only thing different about those with OCD and those not with OCD are their repetitive thoughts and behaviors, which they hate and want to get rid of!!

Most types of anti-anxiety medicine do not work for them, but some do to some extent. Behavioral treatment works on a specific compulsion, but individuals often then move to another one. Few long term studies have been done documenting efficacy of any intervention, and unlike most psychiatric illnesses, serious OCD is remarkably refractory to all forms of treatment.

OCD is the only psychiatric disorder for which brain surgery is indicated in the most refractory cases, and even then, the surgery is effective only 50% of the time.

In my own opinion, of all the psychiatric disorders in which the person usually maintains his complete rational faculties throughout the course of the illness, this is the most frightening precisely because the person is fully aware that what he is doing (e.g. washing for 16 hours per day) is completely insane. Indeed, patients with this disorder will tell you that their behavior is insane and beg for help. They fully well know (once explained to them) that washing their hands so frequently actually makes it more likely for them to get an infection, but they still can't stop. So they understand the scientific arguments very well.

The only analogy I could give to make compulsions understandable to some, might be to ask a young man to never have sex or experience any voluntary sexual release for the rest of his life. It is possible in the short-term, but virtually no one would succeed in the long-term.

Telling someone not to obsess "just get over it" would be like telling an average young man not to ever think about sex. Possible for some very strong-willed people to change their thoughts immediately....maybe.....but not for most. Young men will think about sex, and those with OCD will think about their obsessions.

Interestingly, the same medications which will cause someone to

obsess less, will also cause him to think about sex less frequently.

Thanks.

by Michael Golding on Sun, 07/17/2005 - 21:29 | **reply**

Depression

Mr. Temple,
I wish you would do a little bit of reading, before you give such rash (and incorrect) responses.

Studies have controlled for compliance with treatment ("stupidity"). No, lower IQ is not a risk factor for heart disease if diet, exercise, compliance with treatment, and a host of other risk factors are taken into account.

Perhaps you should read a little bit?

Have a nice day.

by Michael Golding on Sun, 07/17/2005 - 21:41 | **reply**

Controls

I wasn't talking about IQ or using a technical term. Sorry if that was unclear, but I meant stupidity in the standard everyday usage.

I did in fact read the **study**. Please don't say I am unserious, ignorant or anything similar. It claimed:

After we controlled for the other significant multivariate predictors of mortality in the data set

However, it didn't explain how they did this. As there are no scientific tests or measures (and there cannot be) to test for certain forms of stupidity, I don't believe the sentence. For example, it *requires creativity and judgment* to decide if a person understands how to make good decisions about heart attack risks when confronted with fun activities or tasty foods. This cannot be controlled for.

If you disagree, please provide some explanation of how it can be controlled for. (And some reason to think the people who did the study actually used your method.)

Further, there could be a factor they don't know about that they didn't control for. They can't prove there isn't.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Sun, 07/17/2005 - 23:12 | **reply**

Medical Intervention

"Most of the problems you list are not dysfunctions of the body, and cannot be fixed by fixing the body. So no one can treat them, even if they have been trained to prescribe drugs"
Woty

With the exception of Alzheimers, 1/3rd of the cases of schizophrenia, and OCD/Tourette spectrum disorders, (which in the long-term we are not particularly good at treating), we treat virtually all of the listed conditions reasonably well, and the same is true for psychiatric treatment of dozens of other illnesses, and we

are getting better. Thousands of studies document this relative

success.

Indeed, the treatment success rates of various medical professions have been studied, though obviously conclusions drawn by the studies must be somewhat subjective because of the meaning of the word "success".

But psychiatrists tend to have higher rates of success in treating illnesses that the profession handles, relative to general internists and neurologists, for example. Surgeons, however, seem to have the highest success rates.

Is your perspective two or three decades behind the times?

But thanks for recognizing the reality of bipolar disorder and schizophrenia. That's a start in this forum!

by Michael Golding on Mon, 07/18/2005 - 00:59 | **reply**

Kolya not Woty

Sorry. Kolya is the one who understands the reality of Bipolar illness and Schizophrenia.

by Michael Golding on Mon, 07/18/2005 - 01:04 | **reply**

Kolya

Actually, as I read it, Kolya denied it was an illness.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Mon, 07/18/2005 - 01:11 | **reply**

Bipolar Entity

Yes, Mr. Temple, you are right, he did. He called the Bipolar ? entity?, "real".

by Michael Golding on Mon, 07/18/2005 - 03:00 | **reply**

Real

We all agree it's real. (ie, that it exists). no one is saying: nah, everyone acts totally sane, all reports of sightings of crazy people are just ... umm well not from crazies ... all just mistakes.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Mon, 07/18/2005 - 03:18 | **reply**

What is real and what is not?

Dr Golding,

Not only do I agree that conditions such as bipolar disorder and schizophrenia are real, I also agree that they can cause profound unhappiness to those who are afflicted by them. I consider any attempt to construe them purely as unorthodox manifestations of free will, as plain silly. Let me also say that I have the highest regard for the scientific enterprise.

So why am I unimpressed by the voluminous literature about the physical basis of mental disorders? One reason is captured by the

jocular saying: "If your only tool is a hammer, all problems are

liable to look like nails." The point being that for all its power, science is distinguished from other forms of enquiry by just one unique tool: empirical refutation. Therefore anybody who wants to publish a scientifically credible paper must present their conclusions in a form that is, at least in principle, empirically refutable.

Which is fine if your subject is celestial mechanics. But what if your subject is, by its very nature, not easily amenable to empirical testing. Take for example the recent controversy about whether the relative dearth of top rank female mathematicians has a genetic basis. I contend that this is not a problem that currently lends itself to conventional scientific discourse. Of course, if somebody found a gene for mathematical aptitude and was able successfully to predict future mathematical achievement, things might be different. But that hasn't happened. Not with mathematical aptitude and not with schizophrenia.

I know many people claim to have discovered all kinds of correlations between genes and mental disorders. I also know that for many years it was "established" that eating too many eggs elevates you blood cholesterol. Except it turns out that blood cholesterol is hardly affected by the levels of ingested cholesterol. Similarly, there must have been literally thousands of reported discoveries of correlations between this gene and that behavioural disorder, which have subsequently sunk without a trace.

Pending the completion of properly conducted prospective studies that successfully predict mental propensities based on genetic data, I content that variations in human behaviour are not genetically determined (except for cases such as Down's syndrome). The main reason most of the relevant professionals assume otherwise is that their only tool requires them to theorise in terms of physical causation, if they are to retain scientific credibility. This is a case of the drunk looking for his wallet under the lamppost where the light is good, rather than in the dark alley where he dropped it.

In conclusion, let me point out that my stance is more refutable than the general doctrine of genetic causation. As soon as somebody publishes a genetic basis for successfully predicting which infant is likely to get schizophrenia, my stance will be refuted. But what would it take for the opposing genetic-causation doctrine to be refuted? As the adherents of that doctrine only admit empirically based arguments, is seems to me that if the doctrine were wrong, there is no conceivable experiment that would be accepted by them as a refutation. They would always do as they have done before, claim that the definitive physical causes of variations in human behaviour have not yet been discovered.

I mention in passing that such a strategy is also open to the defenders of astrology.

by **Kolya** on Mon, 07/18/2005 - 11:10 | **reply**

Re: Fake Illness

> I assume that from your statements above that you believe Joe continues to be “not culpable.”

Not culpable for his attack, yes.

> Do you think it is possible for someone like Joe to continue to *not understand* an explanation given to him concerning why it was wrong to hit Harry [...]?

Actually we have already agreed that under the circumstances it was not wrong for him to hit Harry. But yes, it is very common for

people, with or without hallucinations, to be mistaken about the

ideas and motivations of some other people, and to ignore all evidence and to fail to understand explanations showing that they are mistaken about these and other facts.

> In other words, do you think it is possible for someone like Joe to hallucinate so vividly and to be so paranoid and delusional, that he believes

This is very far from being the previous question stated in other words. This is a substantive theory about the mechanism for Joe's resistance to evidence and argument, namely the vividness of the hallucinations, etc. As before, the example as given does not contain any of the details relevant to whether Joe's resistance to being persuaded is morally wrong, or what it is due to. So let me imagine some details that would be relevant: first of all, it wasn't just a hallucination in the sense of seeing and hearing things that weren't happening. Some of the things (horns) are so implausible that one would immediately assume one was having a hallucination, unless the hallucinations were combined with a hardware-induced feeling that they are authentic. So I'll assume they were. Then, let me assume, he ran out of the pub screaming that the horned, demonic CIA agents were trying to kill him. The bystanders called the police, who located him nearby and asked him to accompany them in order to investigate the attack in the pub. He accused them of being horned, demonic CIA agents out to kill him, but they overpowered and restrained him before he could attack them. Now he is sitting in a cell, powerless, and various people whom, on the face of it, he has reason to trust, have been telling him that he has been hallucinating, and he just accuses them all of being horned, demonic CIA agents out to kill him.

OK, now, could the vividness (and hardware-enhanced sense of authenticity) of the hallucination possibly explain this behaviour? No. Not by itself. Because, for instance, once he is helpless in the cell, and they have not killed him, then the theory that they are engaged in a murderous attack on him is refuted. He must change it to something else that explains both his old and his new experiences – for instance, he could decide that now he has been captured they are planning an anal probe, and only afterwards will they kill him. Or he could decide that the whole thing, including his feeling that it is very very real, is a hallucination. Indeed, it is common that people who suffer a sudden, unpredictable, bizarre and terrifying disaster, wonder whether this is all a nightmare or hallucination. In either case, or in any other case, the explanation that he tentatively adopts cannot possibly be coded for in a defective gene or poisonous chemical. It is too complex for that. It can only have come from his own creative thought.

Why has his creative thought settled on one particular explanation as being the best, out of the infinity of explanations that would cover the experiences he has had? The story hasn't told us, but my moral opinion of him depends crucially on this. So again, let me imagine two extreme cases. One is that, prior to this hallucination, he was already a fervent believer in evil conspiracy theories and in the supernatural, and was also a thug who took pleasure in attacking people he took a dislike to. Let me also imagine that he had a clear path to the exit of the pub at the time of the attack, and did not hallucinate that it was blocked, and hence could have fled rather than attack his imagined attacker. In that case, the fact that on this occasion it happened to be a hallucination that sparked his attack is just an accidental detail, and (contrary to what we thought before we knew this) he bears a great deal of moral responsibility for it, perhaps almost as much as if there had been no hallucination. And if that is also the reason for his subsequent intransigence (i.e. that he more or less believed that explanation already), that makes

him morally wrong to be intransigent too, just as he was already

morally wrong to be intransigent about similar beliefs even before the hallucination.

At the other extreme, imagine that he is a fine, upstanding fellow with no relevant immoral ideas or habits, and that this sudden and unpredictable brain defect is not only causing hallucinations, it is affecting the transcription of his short- to longer-term memory. He can no longer recall the attack in the pub, but only waking up half a minute ago, imprisoned by demons. He is constantly in a state of being overwhelmed by this new and bizarre situation, and is therefore quite rightly devoting his attention, first, to analysing the possibility that it really is as it seems to be. By the time he gets round to considering other possible explanations, he has forgotten, and starts again at the beginning. In that case, he has done, and thought, nothing wrong.

> 1. that those explaining what actually happened to him are in league with the devil and the CIA and are trying to harm him, so he shouldn't listen to them when they talk about Harry being a nice man who was just offering him a cigarette?

It doesn't doesn't follow from the proposition that they are demons trying to harm him, that he should not listen to their explanations. On the contrary, once he is helpless and in their power, he should listen to them. If he had previously believed a religion that said otherwise, he may well have been at fault for doing so (though since this is such an unlikely outcome of believing the religion, his fault may not be commensurate with the harm it has caused).

> 2. that actually Harry *was* trying to stab him with a knife because he (Joe) saw the knife and he (Joe) heard Harry threaten him with it?

Memories, and experience, are fallible even in people who do not have hallucinations. So, again, the fact that Joe remembers this is not sufficient reason for him to reject arguments that he is mistaken.

> Is it possible that given Joe's hallucinations, Joe's best logical efforts lead him to believe that Harry was and is trying to hurt him? In short, is it possible for someone like Joe to continue to *not understand* that what he did was wrong?

The hallucinations alone could not make his best logical efforts lead him to that explanation, and especially could not make him reject valid arguments for its being false. But there are other possible hardware failures, one of which I have indicated, which could.

by **David Deutsch** on Mon, 07/18/2005 - 11:40 | **reply**

Re: What is real and what is not

"Take for example the recent controversy about whether the relative dearth of top rank female mathematicians has a genetic basis. I contend that this is not a problem that currently lends itself to conventional scientific discourse".

"Of course, if somebody found a gene for mathematical aptitude and was able successfully to predict future mathematical achievement, things might be different. But that hasn't happened. Not with mathematical aptitude and not with schizophrenia".
Kolya

I assume you have not read what I said about gene-environment

correlation in any of my previous posts where I discussed this type of question, at one point at very great length. You have refuted none of the arguments I made. And data that could have refuted genetic arguments about bipolar disorder and schizophrenia could have easily been found by research conducted, just as it has been found for black-white differences in IQ and male-female differences in a number of traits.

Once again, one can not decide, using certain types of twin studies, male-female or black-white differences in gene frequency, because of gene-environment correlations. Even Murray and Hernstein (The Bell Curve) clearly understand this, yet you apparently don't. The possibility of gene-environment correlation has been extensively evaluated over decades in bipolar disorder and schizophrenia. But Mr./Dr. Kolya, feel free to be the last of the phrenologists. Tendentious?

"While there exist some wise and humane psychiatrists and therapists, as an objective body of transmissible knowledge, psychiatry is, as Szasz rightly says, just like alchemy."

Alchemy? Let's see. Thousands of well-controlled studies documenting the effectiveness of psychiatric intervention. Tendentious? No, I'm afraid worse than that.

by Michael Golding on Tue, 07/19/2005 - 01:28 | **reply**

Re: Mental Illness

Michael Golding wrote:

> To use Mr. Forrester's analogies: In all of the above examples, the "programming" of the computer (or TV) could be bad. The person who gets punched could have failed to learn how to be nice to people. The child who gets type 2 diabetes could have failed to learn how to exercise and eat properly. The person who becomes depressed may have failed to learn how to deal with the cruel behavior of others. But in all the cases mentioned above, the "programming" failures damage the "computer hardware" (causing infections in the sinuses, damage to the kidney, and damage to the heart.) In short, the software damages the hardware.

Famine and warfare also cause damage to bodily tissues, so do you think famine and warfare are diseases?

> Individuals with schizophrenia often appear perfectly normal as children and young adults. They graduate from high-school, begin a promising college education, but for unknown reasons they suffer their first psychotic break, and may hallucinate, and become paranoid, usually as late adolescents. Within 3 months, the brain of a young person just developing this illness, will shrink the equivalent of the amount one sees with a small stroke (an average of 11 cc's) (Lieberman JA, ACNP 2002).. And the patient loses approximately 15 points of IQ function (depending upon the study) in a few months, exactly the kind of results one would expect from certain types of acute brain injury. And, these are also the types of changes you see with a stroke in certain areas of the brain. Why is the acute brain shrinkage from a stroke the consequence of a "real" phenomenon, but the acute brain shrinkage from schizophrenia a consequence of a "Superstition", according to Mr. Alan Forrester. How can a "superstition" shrink a brain?

To translate from psychiatrist speak: from the time when the

mental patient begins to behave so strangely that his relatives report him to a psychiatrist his brain shrinks. Two things change under these circumstances. (1) Psychiatrists start to treat him, possibly with drugs. (2) He changes his behaviour. Either one of these might result in his brain shrinking. Medication might shrink his brain, or he might not be eating enough or...

by **Alan Forrester** on Tue, 07/19/2005 - 02:05 | **reply**

Well-Controlled

Please reply to the following:

Each and every one of those well-controlled studies is perfectly consistent with the existence of some other (unknown) factor, which was not controlled for. And it could be this factor causing the effect. And thus the conclusions of the studies could conceivably be wrong if it turns out there is such a factor. Do you agree with this so far?

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Tue, 07/19/2005 - 02:12 | **reply**

Re Mental Illness

"Famine and warfare also cause damage to bodily tissues" so do you think famine and warfare are diseases?"

Mr. Forrester, I did not call the punch in the face the illness, I called the damage to the Maxillary Sinus an illness. But yes, diseases appear as a consequence of wars (for example infections), but wars are not diseases. Type 2 diabetes can appear as a consequence of overeating and failing to exercise in children, but the diabetes is the illness, not the overeating.

To translate from psychiatrist speak: "from the time when the mental patient begins to behave so strangely that his relatives report him to a psychiatrist, his brain shrinks."
No, that's not correct.

This study has been referenced several times and explained several times in these posts. If you have questions, please ask about it.

Your assumptions are, however, completely unfounded. This was a seminal study in the field, with remarkably tight controls, very careful definitions of "first onset" psychosis and etc. Commenting on well done studies sponsered by the NIH, that you have not read, nor asked about, nor thought about is not part of the scientific process.

If you wish to learn how to read and understand scientific papers, I would be pleased to give you references and exellent papers explaining the basics of the process.

Have a nice evening

by Michael Golding on Tue, 07/19/2005 - 02:57 | **reply**

Mental Illness

Mr. Golding and Kolya,
(I prefer to be addressed as Becky.) I appreciate your lengthy responses to my posts. I'm a bit caught up with work and home

responsibilities, atm, but I'll try to respond to them as soon as

possible.

Becky Moon

by **beckyam** on Tue, 07/19/2005 - 15:52 | **reply**

Reply to Mr. Golding

"Or at any rate, let me try to convince you that serious mental illness implies underlying brain disease, involves peoples choices and is affected by cultural phenomenon in the same way that type 2 diabetes implies the existance of an underlying endocrine disease, but also involves peoples choices and and is affected by cultural involvement." -Michael Golding

That's quite a bold statement (not necessarily untrue, just that it implies that serious mental illness couldn't exist without brain disease). How do you know serious mental illness implies underlying brain disease? Have all know mental illnesses been linked conclusively to brain disease? How do you distinguish a disease from a healthy difference? How is "serious mental illness" defined? Is there some mechanism for differentiating it with "extreme differences from cultural norms"? What if it's the "norm" that is "wrong"? What is the mechanism for addressing this? I suppose as with homesexuality, the medical community can correct mistakes about specific differences that they later realize to be healthy/normal. What about the harm done to healthy people in the meantime? This could be less harm than is done to people who avoid treatment because of the stigma attached to "mental illness". It might be good to drop "mental illness" simply because "brain disease" doesn't have the negative social connotations that mental illness does. (I'm not expecting answers to all of this. I often ask more than anyone, including myself, has time or inclination to answer or think about).

"In my opinion, whether an illness is caused by an interaction with others or not, should not matter if the consequences to the person are a potentially permanent change in physiology which shortens his life and damages his organs.

For example, even if Fred deserves to be punched in the nose, he still may have a crushed maxillary sinus from the punch, and a crushed maxillary sinus is certainly an illness, which should be treated by doctors." -Michael Golding

I agree that medically treatable aspects of the problem should be treated, of course, but what about the matter of the person punching him in the nose? Do we just chalk it up to Fred's nose-punched tendency or try to do something about nose punchers?

"So whether certain types of mental illness are caused by an interaction with other people should not be relevant, if such interaction causes a substantially increased risk for development of an abnormal physiology and if this pathophysiology shortens peoples lives and damages their organs. If obese children now are developing type 2 diabetes which damages their kidneys, if someone is punched in the nose and the damaged maxillary sinus is now prone to infection, or if someone is cruel to someone else and the victim becomes depressed, and this damages their heart; and if all of these are caused by interactions with other people, why is the depression the only one that is not an illness?" -Michael Golding

I think I'd agree if there weren't the problem as I mentioned above where mental differences are diagnosed and treated without a lot of consideration about whether they really are disorders and whether the more important cause and solution might be external. Just

because the conditions required to ... "trigger" bipolar disorder

haven't been discovered, doesn't mean they don't exist. I would think it would very difficult to isolate or control for all social and ideologically oriented causes as it can be in medicine.

"In short, the software damages the hardware." -Michael Golding

Nice analogy.

"The work of Nemeroff (JAMA) and others, in primates (mildly) experimentally abused as infants, and women abused as children, provides ample scientific evidence of life-long damage to organ systems due to early childhood stress."-Michael Golding

That's very interesting and a bit discouraging.

"With physical symptoms, there's usually some idea of harm they are doing to the person's body." Becky Moon

"Ms. Moon, you may be confusing cause and effect, just a little, in this statement. Physical symptoms don't (in general) cause harm in a person's body, they are a consequence of harm." -Michael Golding

Oops, my bad.

" Why is the acute brain shrinkage from a stroke the consequence of a "real" phenomenon, but the acute brain shrinkage from schizophrenia a consequence of a "Superstition", according to Mr. Alan Forrester. How can a "superstition" shrink a brain?" -Michael Golding

I can't site a study or article for you. I've just assumed from the time it first occurred to me to think about the subject at all that thought affects the chemistry of the brain. I've seen articles that seem to support this. If this is so, then couldn't certain types of thought that contributes to brain shrinking? Is my assumption erroneous? I'm not claiming any knowledge about how brain chemistry is particularly affected. It could be that size isn't much related. I had thought I read something, though, that children (and animals) who were exposed to lots of stimulation had more of some type of brain matter (neurons? or links between neurons?) I don't see how this could be related to brain shrinkage though. A person who was very actively stimulated .. it would seem their brain would increase in size or connections.

Forgive if my lack of brain chemistry knowledge is getting me really far off track here, but I want to go off on a bit of some imagining about how thought could affect the brain: Could some bit of knowledge be so upsetting as to make a person "forget" large bits of knowledge as a sort of "self-defense"? It might only "work" for people with a particular genetic flaw or difference, or it could be that most people don't experience anything so upsetting or don't tend to try (or even be able to) forget things they find upsetting or overwhelming. If thoughts can change the brain, then it would be case for some thoughts even possibly harming the brain or causing disease.

"Very perceptive comment, in my view. I agree with you 100%. Homosexuality is not consdered an illness or a disability, nor should it be. -Michael Golding"

Homesexuality was once thought of as a mental illness, though, wasn't it? (Or was that just something lay people thought?) Is this just a mistake that was unavoidable or could changing the way people approach mental issues have avoided this?

Cheers,
Becky

OCD

"Most types of anti-anxiety medicine do not work for them, but some do to some extent. Behavioral treatment works on a specific compulsion, but individuals often then move to another one. Few long term studies have been done documenting efficacy of any intervention, and unlike most psychiatric illnesses, serious OCD is remarkably refractory to all forms of treatment." -Michael Golding

I posted the comment as a suggestion to Elliot as to how medicine "might" work by helping thoughts to change indirectly. It seems OCD is a bad example.

I am familiar with people who have OCD-like symptoms (and at least one diagnosed), but not much with their treatment. At least some of them managed to quit things like hand-washing and not pick up any other habits that were a problem (at least they haven't been noticed by them or anyone else yet). By quit, I mean stop doing the action for a while and then eventually stop feeling obsessed about or thinking much about doing the action. It doesn't seem "easy" to do - just possible.

"They fully well know (once explained to them) that washing their hands so frequently actually makes it more likely for them to get an infection, but they still can't stop. So they understand the scientific arguments very well." -Michael Golding

In my experience, having a good understanding of why to stop doesn't always make a habit go away for people who don't seem to have OCD symptoms. It usually takes focusing on some new preferred habit, but I think knowing that the behavior isn't rational is probably a necessary prerequisite (then again, maybe not).

"Interestingly, the same medications which will cause someone to obsess less, will also cause him to think about sex less frequently." -Michael Golding

What sort of medications?

by **beckyam** on Wed, 07/20/2005 - 00:45 | **reply**

Indirect Help

I posted the comment as a suggestion to Elliot as to how medicine "might" work by helping thoughts to change indirectly.

Yes, I agree that medicine can work that way. So can tennis, ice cream, and movies. Medicines are part of a tradition of helping people, so they are particularly valuable for that reason. (Ice cream is actually also part of a tradition of helping people feel better, though quite a different one. In fact, sports and movies are too. But the tradition of medicine helping with this kind of issue is much stronger.) Kolya alluded to this above when he said that medicine has a legitimate role to play in helping with these issues.

Keep in mind that this is different from the medicine working in the way it is claimed to work.

- Elliot

by **Elliot Temple** on Wed, 07/20/2005 - 05:14 | **reply**

Elliot - Indirect Help

What way is it claiming to work? How is what I suggested different?

Becky

by **beckyam** on Wed, 07/20/2005 - 19:28 | **reply**

How Medicine Doesn't Work

Direct help -- take this medicine and it will change your personalty.

Indirect help -- take this medicine, feel different in your new situation, *interpret this as important*, and change your own personality.

Medicine is generally purported to work in the direct way, and some medicine does (like pain killers), but some doesn't. The quirk and dirty criterion is: anything purported to change your personality in complex ways doesn't work directly.

For example drugs to turn Democrats into Republicans, shy people into outgoing people, or vegetarians into lovers of meat would all work in the indirect way, if they worked at all. More examples that could only work in the indirect way are drugs to make one happy, sad, in love, hateful or curious.

-- Elliot Temple
http://www.curi.us/

by **Elliot Temple** on Wed, 07/20/2005 - 20:09 | **reply**

Comments of Becky, Mr. Temple

Becky,
I am busy as of now. I want to respond to your important comments and questions and hope to in a few days!

Mr. Temple and Becky,
FYI, 99% of psychiatrists would say that no medication can change personality, directly or indirectly!

On this issue, I happen to disagree very slightly with most psychiatrists, but totally agree with you and Becky: If personality could be changed, it would be indirectly. (FYI...depression, schizophrenia, bipolar illness, are not considered aspects of personality; although I could see how they could be thought of that way if not familiar with these illnesses!)

After major depression is treated, for example with medication, people's personality, thought to be unchangeable due to medications, then usually again becomes evident to the patient and his relatives. The patient says, "I feel like myself again."

This personality may make others happy or sad, or angry. But the personality is thought to be a composite creation of the functioning of large sections of the brain, including emotional centers interacting with life experience, and peoples choices. Personality composition, is not thought to be created by the functioning of specific or narrowly defined parts of the brain.

For example the Canadian surgeon who recently operated on a group of patient's brains, whose depression treatment was refractory to virtually every treatment imagineable, achieved success (but in an uncontrolled experiment that has not yet been repeated) by surgically operating on a part of the brain that is universally hyperactive in individuals with depression. Certain drugs and other interventions usually return the functining of these parts of the brain to normal, but likely did not in these individual's cases: But the surgeion certainly did not try to alter large sections of the brain!

A surprising percentage of the patients dramatically improved after

surgery, but only per their own reports, so obviously sham surgeries and other placebo controlled trials are needed, before we can get too excited about this last ditch intervention. But in most of our lifetimes, surgery certainly will become part of normal psychiatric interventions when medicines fail....and no, if anyone really thought that a surgery we do to help, for example a depression, would dramatically change someones personality, I think virtually no one would do it.

It would properly be considered immoral, unless to save the very life of the person (e.g. brain tumor).

We know from animal models of depression (e.g. forced swim tests) that genetically modified animals are more vulnerable to stressors leading to behaviors that mimic major depression in humans. But with more extreme types of stress, animal mimics of depression can be induced even in animals without genetic predisposition. We know that virtually all medications which work to reverse the behavior in animals that mimics depressive behavior in humans, almost always work to treat depression in humans, if the medicines are found to be safe to try in humans. We also know the reverse is true. All known medicines that have for some reason been tried in humans first, and reverse their major depression (like antidepressant herbs), will reverse animal behavior mimicing depression, as well.

That is why the Canadian surgeon was taking a huge gamble, but not making a completely wild guess, when he operated on the brains of those with repeatedly treatment refractory depression. Operations have repeatedly been done on animal brains in animals exhibiting behavioral mimics of a variety of human mental illnesses, with reversal of these conditions with different types of surgery, just as a variety of medications do in both animals and humans.

And of course, the same parts of the brain that are overactive in animals exhibiting "depression", are also overactive in humans with depression (Overactivity meaning markedly increased excitatory activity with subsequent destruction of nerves, for example in the anterior cingulate gyrus and the hippocampus, as documented by functional neuroimaging)

Overactivity in parts of the anterior cingulate cause both emotional and blood pressure reactivity (Critchley) and hormonal reactivity to stress seen in those with depression. Increased blood pressure reactivity means that the blood pressure goes up more in response to stress.

Animals with experimentally induced "depressions", whether genetically modified to be predisposed to "depression" or not, also will lose (particularly short-term) memory function temporarily, then permanently if their depression is not treated with particular anti-depressants, which protect the brain from this excitatory neurotoxicity (Excitatory neurotoxicity means chemicals released by brain cells killing other brain cells or themselves, and therefore damaging the brain.)

In both humans and animals, the partial destruction of the hippocampus causes the sometimes permanent loss of short term memory encoding, associated with depression in humans and depression mimicing behavior in animals. Certain antidepressants prevent and protect against this brain damage (depression induced dementia), as documented in live animals by direct examinantion, and as documented in humans by various types of functional neuroimaging.

Although a little off topic, the basic ideas is that major depression and other serious psychiatric illnesses (I'll define this later), are

superimposed on personality, and these serious illnesses are

treatable by a variety of interventions, and will be treatable in our lifetimes by direct nerve cell modifications and surgeries, to alter the disease processes.

As mentioned, it has previously been shown that certain antidepressants protect against hippocampal damage in depression. Our group just showed (preliminarily) that certain antidepressants, not only decrease emotional reactions to stressful situations, but blood pressure reactions as well. Increased blood pressure reactivity to emotional stress is beginning to be known as a major reason for the increased cardiovascular death associated with heart disease and depression. And it is certainly provokotive that certain antidepressants are known to protect the hippocampus, decrease anterior cingulate activity, and now decrease blood pressure reactivity.

Preliminary studies even show that certain antidepressants may protect against heart disease as well (Sauer). Although too early to celebrate, we may one day be treating heart disease with antidepressants!

Animals with their "fight or flight" nerve removed at birth (stellectomy) can not develop heart disease, no matter how much you feed them, no matter what you feed them, no matter what they weigh. So brain involvement is (at least in animals) a necessary, but not sufficient, condition for the development of heart disease. Gaining better insight into psychiatric illness helps to bridge the gap between multiple fields in medicine, including neurology, cardiology and endocrinology.

I am always astounded by the coincidences found in medicine and psychiatry as we advance. Astounding coincidences keep popping up, like the fact that those illnesses found to be primarily genetic in humans cannot be easily behaviorally conditioned in animals, if at all. But those illnesses found to be primarily non-genetic in humans can be. What is the relationship between an identical twin studied by a geneticist and a rat studied by a behaviorist? Evolution is wonderous in creating such beautiful connections even between such seemingly different creatures like rats and humans (although obviously our moral sense dramatically separates us from other animals).

Dozens of fields are finding the same converging evidence using totally different methodologies. Those who ignore the significance of these findings, do so at their own physical and psychological risk.

I'll be back in a few days.
Take care.

by Michael Golding on Thu, 07/21/2005 - 00:20 | **reply**

Fake Mental Illness

Professor Deutsch,

Thank you for your interesting response.

"This is very far from being the previous question stated in other words. This is a substantive theory about the mechanism for Joe's resistance to evidence and argument, namely the vividness of the hallucinations, etc."
Professor Deutsch

I said "let's say Joe is in a mental state in which he is *actively psychotic*. …

And in the next post I said,

Do you think it is possible for Joe to continue to not understand….

In other words, do you think it is possible for someone like Joe to hallucinate so vividly and to be so paranoid and delusional, that he believes…"

"This is very far from being the previous question stated in other words. This is a substantive theory about the mechanism for Joe's resistance to evidence and argument, namely the vividness of the hallucinations, etc."
Professor Deutsch

Psychosis -- A mental distortion causing gross distortion or disorganization of a person's mental capacity, affective response, and capacity to recognize reality…..
Stedman's Medical Dictionary

Affective – Pertaining to emotion, feeling, sensibility…..
Stedmans Medical Dictionary

If someone is hallucinating but he knows the hallucinations are not real, he is not psychotic! When I defined Joe's mental state as being "actively psychotic" and later said "in other words", he was "hallucinat(ing) so vividly" and acting in a "paranoid" and "delusional" fashion, one statement follows precisely logically from the other, when one understands the meaning of the word "psychosis"! But these are semantics.

Joe is a 21 year-old white male from North Carolina in the Southeastern part of the United States. He was born in rural Eastern North Carolina . He is the second of three children. He was a full-term infant, mild mecomium present at birth, immediate and 5-minute Apgars were a little low but by 15 minutes were completely normal. He had normal childhood immunizations, and usual illnesses. He achieved his normal developmental milestones on time, or even a little early, usually was in the 40th percentile for weight and 50th percentile for height. He was an A and B student and well-liked throughout school. He played football in Junior High, and was a member of the band and chess team in high-school.

His family was religious, indeed his father was a "lay minister" at the local Southern Baptist church and a senior manager of a tobacco distributing company. Joe, unlike his father, had no exposure to farm pesticides like organophosphates.

Joe attended church weekly with his family. His father was known for his fiery sermons, and excellent command of the English language. Joe also was known to be rather above average in his intelligence, and indeed on standardized testing at school Joe was usually above the 80th percentile in both math and reading skills. It was said that he did not "apply" himself or he would have achieved all A's. Because of Joe's rural background, the fact that his father was a University of North Carolina business graduate, and the fact that Joe had good SAT scores, despite modest grades, he was accepted into the University of North Carolina at Chapel Hill.

Prior to college, during his senior year in high-school, he experimented a few times with marijuana, felt it relaxed him but was concerned that it was illegal and he did not want to get caught. One night he was offered the opportunity to take his friends Ritalin when he was up studying for a test at the last minute. He absolutely loved this drug, felt it made him feel better and function better. Indeed he went to his physician and asked for it, because he said it helped him to study, but his physician suggested several new study habits and refused to write the Ritalin, because he could not find any medical reason to.

He had his first sexual relations in his senior year. Towards the end of his senior year in high school, he became a little bit less outgoing than usual, but maintained several excellent friendships. Family and

friends said that he was becoming a bit more "mature", and he started to read philosophy texts and particularly texts on the philosophy of religion, something his father was also interested in.

He attended the University of North Carolina and decided to major in philosophy, with an eye toward going to Duke Divinity School (just down the road from the University of North Carolina). He did reasonably well in college, but not as well as he did in high school. His friends thought he isolated himself with his philosophy and religion texts more than they would prefer, and he started attending religious services with a man who said he was a "Zen" master who was teaching him to "channel" spirits for a fee. He would spend long hours, occasionally in his room meditating, or sometimes "channeling" spirits. He continued to get reasonable grades, now B's and C's but in his sophomore and then junior year, he began making comments that his professors did not have the "insight" that he did and were not able to feel the "presence" of god, so were not capable of judging his writings. He still had several friends, still would date, but insisted that any woman that he dated read and agree with his "thesis" on the nature of god, and acknowledge the likelihood that he was potentially anointed by god to bring his word to "the people". He did acknowledge that others could be anointed, as well. He was still likeable and friendly, did his school work, helped his friends when they needed a favor, played trumpet in the school band, and still looked forward to going to Duke Divinity School, where he felt that he would finally be "understood" and not have to deal with the "secular materialists" attending the University of North Carolina. Indeed he exercised regularly, had good hygiene, was "clean-cut" just a little more quiet than some, except about religious issues, about which he had strong opinions. His only "vice" (per Joe) was that he smoked cigarettes, a habit he picked up his Sophomore year in school. He said it helped him to relax and focus.

During one particular "channeling" session, while his parents were visiting him at his apartment in Chapel Hill, his Dad pointed out that "Christ" did not say that one should try to contact the "devils children," by channeling, but rather that "We should pray for peace and love to Jesus himself. He told Joe that he should not "try to contact" the devil, in order to fight him, but rather let his prayers strengthen those walking "in the spirit with G-d" and in this way defeat the devil in his community of "loving Christians."

When his father said this, Joe became quite angry and in fact said that he could feel the very presence of the "devil" around his father. Since Joe had never said anything like this before, and indeed since this seemed very "out of character" according to his father, they asked Joe whether he would be willing to see a doctor. Over the last month, on the telephone, his parents thought they saw the beginnings of a bit of "personality change" and for the first time were slightly concerned, and did not think his increased interest in philosophy and religion was a sign of his "maturity" anymore. Joe laughed at his parents, and apologized to his father, saying that it is sometimes "hard" to know the "devils ways." But to "humor" his parents, Joe suggested he see a specialist, a neurologist, to prove to his parents that there was nothing at all wrong with him.

Joe saw the neurologist with his parents and a medical history was taken.

It turns out that Joe's mothers father had been hospitalized at the State Hospital "Dorothea Dix" with several "nervous breakdowns" in the 1950's and ultimately in the late 50's killed himself with a self-inflicted gunshot wound to the head. Joe's mother was quite upset at the time, but with the love of her family, her church, and G-d, she said she had "made" peace with the terrible circumstances of her fathers life, and to all accounts, she had been a very loving and caring wife and mother, and an upstanding member of her

community. The patient's mother also had a male cousin on her father's side of the family, who was diagnosed with "schizophrenia" and is still alive and is currently being treated with medications for it and apparently doing well.

Joes vital signs were completely normal. It was revealed that Joe smoked cigarettes, approximately 1 pack per day for the last two years. The neurologist gathered much of the history already recounted above (about Joe's increasing interest in religion and his slightly unusual preferences for religious activities that one would not expect given his cultural background.)

On neurological exam, he found a few "soft" signs but nothing specific. On mental status exam, Joe was almost entirely appropriate. His thought process was tight (logical), his thought content was thought to be "normal," except perhaps for slight religious preoccupation. But living in this part of North Carolina and going to a "liberal" University like UNC, the neurologist did not think his thoughts were very unusual. His speech was of regular rate and rhythm with normal prosody. When the neurologist asked Joe whether he heard "voices" that others could not hear, Joe chuckled a little and said, "nothing but the sweet voice of god."

The neurologist asked Joe to elaborate a bit more, and when Joe just smiled, he asked him whether he hears the actual voice of god, or whether it is more like a thought. Joe said it was more like a thought. The neurologist watched Joe throughout the interview, and never saw him "attending to internal cues" (the subtle eye and head and muscle movements that can be seen when individuals have auditory hallucinations). Joe denied visual hallucinations. Judgment and Insight were rated no better than fair. He scored a 30/30 on his mini-mental status exam. Affect was very slightly "flat" (just a little less emotional variation than one would anticipate in a situation like this exam.)

Given the concerns of the parents, the neurologist commenced a very thorough "work-up", though at the time of the exam he could detect nothing wrong, and indeed believed that Joe was simply exploring "alternative religion", as he has seen many young men and women do. MRI of brain was read as "normal", EEG was normal, blood chemistries and white count were normal, sexually transmitted disease screens were normal, both from lumbar puncture and blood. Lumbar puncture was normal for protein and glucose. No evidence of inflammatory disease in blood or from lumbar puncture. Infectious disease screens including Lyme and Rocky Mountain spotted fever were negative. He was ruled out for porphyrias with 24 hour urines and various adrenal tumors with 24 hour urines, he was ruled out for various endocrine disorders including thyroid problems, ruled out for leukodystrophies, PANDAS syndromes, and ruled out for vitamin deficiency. He was ruled out for heavy metal toxicity or exposure to organophosphates. He was ruled out for Wilson's Disease and Multiple Myeloma and Sarcoid, and Lupus, and urine and blood tox screens were completely negative.

In short, the neurologist was, if anything, too thorough, because Joe insisted that he had learned in his philosophy classes, that an illness is only real if there is a specific lab test that documents that it is real, or a lesion that a pathologist can find, despite the neurologists attempt to explain why this idea is wrong. Joe knew that his parents were concerned about "mental illness" given that they had heard it "runs in the blood," but Joe had read the "World" blog. He explained to his parents that mental illness is "Fake" and a "Superstition". Indeed, Joe had put on his own religious website a story recommending that no one give money to the National Alliance for the Mentally Ill, a charity supporting those with mental illness in America, because mental illness is in fact "fake" and so it

is a waste of money to support such "charities". Indeed he quoted the article mentioning the British mental health charity "Rethink", because Joe, like the editors of the World, believes that people make decisions based on their "values" and not "mindless chemicals." Joe apparently was unaware that values could be of some minimal importance, as well, to those who volunteer at charitable organizations and give money to charities. Joe, thinks that a person's values are actually "the devils or gods values".

Because of Joe's comment about the reality of "illnesses," the neurologist received permission from the Universities research board and from Joe and his family to collect a few extra tubes of blood and send them to Dr. Ming Tsuang at the University of California, as part of a research protocol where Joe will be followed over time.

Joe is declared completely healthy by the neurologist approximately 1 week later. All the tests came back normal, much to the relief of Joe's parents. Two days later, on a Saturday morning, Joe decided to go to the Durham YMCA at 1:00 PM in order to "work out." That morning had started like any other Saturday morning. Joe had awakened at 8:00 AM and had a leisurely breakfast of eggs and toast and took a shower. He did his morning "meditation", by himself in his room, but this time stayed meditating for 3 hours when usually it takes him only 30 minutes. When he emerged from his room, he had an odd smile on his face and said to his roommate,

"I have discovered the secret to truth. I am the light and the way. The devil must be destroyed, in all his forms."

His roommate, being rather perceptive, found the whole encounter very strange. To begin with, Joe had never used language like that for as long as he had known him. In addition, his roommate thought to himself,

"If anyone had really discovered the secret to 'truth' he ought to be pretty excited about it, and Joe just didn't seem that excited. Furthermore if he is the 'light and the way' and about to wage war with the devil, why is he going to the YMCA?"

It all seemed quite illogical to Joe's roommate, until he remembered the definition of "psychosis", that he had learned in undergraduate psychology class.

Psychosis -- A mental distortion causing gross distortion or disorganization of a person's mental capacity, affective response, and capacity to recognize reality…..
Stedman's Medical Dictionary

Affective – Pertaining to emotion, feeling, sensibility…..
Stedman's Medical Dictionary

And then Joe's roommate thought,
"He has been a little odd the last few weeks, I wonder if he has become 'psychotic'? He seems to have a gross distortion of his capacity to recognize reality. What makes him think that he is the 'light and the way' for everyone? In addition, he seems to have a 'gross' distortion of his 'affective' (emotional) response. Maybe Joe *is* psychotic.

Then Joe went to the YMCA and announced audibly, but not loudly, that he feels the sin "about the place".
"There is no charity. Where is the charity?"

So, a patron at the YMCA named Harry, seeing that Joes' pack of cigarettes was empty, offered Joe a cigarette as follows: And Joes

story at the YMCA begins.

Let's say Joe is in a "mental state" in which he is actively psychotic but never did anything intentionally (like abuse drugs) to create this state. Joe is hallucinating and fully believes and sees that Harry has horns and is attacking him with a knife, but actually Harry has no horns and is just offering him a cigarette. He hits Harry over the head with a chair to "defend" himself.

"So let me imagine some details that would be relevant:"
Professor Deutsch

OK.

"(F)irst of all, it wasn't just a hallucination in the sense of seeing and hearing things that weren't happening. Some of the things (horns) are so implausible that one would immediately assume one was having a hallucination, unless the hallucinations were combined with a hardware-induced feeling that they are authentic. So I'll assume they were."
Professor Deutsch

OK. As I said in my example , he is psychotic. I agree that the psychosis ([strong] feeling that they are authentic) is hardware-induced.

Then, let me assume, he ran out of the pub (can I change this to the "YMCA"?, MG) screaming that the horned, demonic CIA agents were trying to kill him.
Although I guess it is possible that he would run out of the YMCA screaming, most patients with these psychotic illnesses (fake or otherwise), would not do that. In fact their emotions are often not "congruent" with their thoughts and often seem quite subdued given what they are saying, so in the same way that Joe does not seem particularly excited about finding out he is the "light and the way", he likely would not run screaming into a crowd that there are horned demonic people at the YMCA. But OK, let's assume he does run out of the YMCA screaming.

"The bystanders called the police, who located him nearby and asked him to accompany them in order to investigate the attack in the pub. He accused them of being horned, demonic CIA agents out to kill him, but they overpowered and restrained him before he could attack them. Now he is sitting in a cell, powerless, and various people whom, on the face of it, he has reason to trust, have been telling him that he has been hallucinating, and he just accuses them all of being horned, demonic CIA agents out to kill him."
"OK, now, could the vividness (and hardware-enhanced sense of authenticity) of the hallucination possibly explain this behaviour?
No. Not by itself. Because, for instance, once he is helpless in the cell, and they have not killed him, then the theory that they are engaged in a murderous attack on him is refuted. He must change it to something else that explains both his old and his new experiences – for instance, he could decide that now he has been captured they are planning an anal probe, and only afterwards will they kill him."
Professor Deutsch

I really don't think that Joe would think that his theory was "refuted". You and I and most of the readers of the World, usually try to sequentially make sense of the various things that happen to us, to try to create a unified "story" to explain things. Others don't and most people with schizophrenia would not admit to being wrong about a delusion while still delusional.

"The theory that they are engaged in a murderous attack on him is refuted. He *must* (emphasis mine) change it to something else that explains both his old and his new experiences…."
People with illnesses like this (like early schizophrenia), have a

"thought disorder". Much about their thinking and behavior is "disorganized". In the history of psychiatry, there were those who believed that if "reality" could be clearly demonstrated to someone with schizophrenia, that is if their delusions could be manifestly shown to be false, the individual would gain back contact with reality. A forceful demonstration of what is real might force patients to integrate old and new experiences, according to this theory.

If one tried to force Joe to understand a correct version of a series of events, perhaps Joe would think, "I thought it was the case that Harry was trying to hurt me, but I now know that he was not". It was thought that if enough "new experiences" were presented to the psychotic patient and enough of his old delusions were strongly challenged, this would treat schizophrenia. So (in the past), if a patient said he was an all powerful god or Jesus, technicians would hold the person down, in an attempt to show the patient that he was not all powerful etc.

The problem is the best of our theories sometimes are just wrong. Patients did not get better when confronted with the inaccuracy of their delusions. Nor did they link up old and new experiences to create a logically unified story, to explain the passage of events. Indeed this failure is a key "hardware failure" in someone with schizophrenia. When reality was forced upon patients who thought they were god, their thoughts, if anything, became more fragmented and illogical. The patients got worse.

It is very disconcerting to speak to someone with "disorganized" ideas; that is, ideas that do not link past, present, and expected future experiences into a logical whole. This is one of the hallmarks of schizophrenia. And you can see this "disorganization" in behavior as well. Those working in this field have all had patients who nearly died from starvation because they insisted the food was poisoned. No amount of explanation, reassurance, eating their food in front of them (I've tried them all) convinces anyone. Although I am not familiar with this case, it is said that Kurt Godel, arguably the finest logician who ever lived, died of starvation because he thought his food was poisoned! Kurt Godel was very familiar with logic, but (if the stories about him are true), even a man with perhaps the finest logical mind that ever lived, could not think his way out of his paranoid delusional system about food. He could not apparently incorporate new experiences (the people around me are eating the same food and not dying) with his old sensibilities (the food is poisoned, it will kill me) and so he died. Some people just can't incorporate new and old experiences to create a "logical" explanation of things.

When the brain malfunctions in this way; even (perhaps) the most logical man who ever lived, could not think his way out of his malfunctioning brain. Nowadays, medications work very well for this condition and people consistently change their mind about whether the food is poisoned, and they demonstrate their changed beliefs by saying the food is not poisoned and by eating it and smiling.

By the way, if someone is on the border of being floridly psychotic and believes the food is poisoned, the way to appeal to him is *not* to use logic, per se. Forcing him to confront his inability to create composite and organized logical theories of experience from past and now present circumstances , precisely challenges the patients weakness, and tends to make him less trusting. And less trust leads to greater disorganization of thought. The best approach is to play a game, like ping-pong, for example, with the patient and talk about the football game on television or current events. Patients want to feel your kindness, your concern, and they want to have fun. Your consistency and desire to help builds trusting relationships and is the single best way of confronting paranoia. Arguing or even reasoning, even if the (young) clinicians intentions are very good,

almost never works.

Sometimes a person can learn to trust even when he can't learn to think. Think of a baby clinging to his mother. He trusts her, but certainly can't say why. An excellent psychiatric nurse knows that trust is more important, and will just have food around the nursing station and sometimes the patient will, just for a moment, *suspend (his faulty) reasoning,* and act on pure faith in you, the clinician. Then he may take a bite of the cookie, or more importantly, take the medicine that will enable him to keep taking bites of cookie…because his paranoia will likely decrease.

Back to Joe who has been taken by the police to jail.

"The theory that they are engaged in a murderous attack on him is refuted. He must change it to something else that explains his old and his new experiences" (because Joe is alive in the jail cell). Professor Deutsch

Well no, he must not. People with schizophrenic illnesses are often quite illogical, particularly when they have to attach new experiences to old, and then construct a composite new interpretation or theory that encompases data from the past and present. Those with schizophrenia are notoriously bad at this, that's why their thinking is "disorganized". They do not put ideas together correctly. When this is coupled with paranoia, the patient has a serious problem.

But OK. Let's go with your version, anyway. Let's assume that in this particular case, Joe is able to come to the conclusion that he was wrong, the police were not actually going to kill him immediately but instead….

"for instance, he could decide that now he has been captured they are planning an anal probe, and only afterwards will they kill him." Professor Deutsch

"In either case, or in any other case, the explanation that he tentatively adopts cannot possibly be coded for in a defective gene or poisonous chemical. It is too complex for that. It can only have come from his own creative thought."

If a British citizen is on a bus, the citizen may have a literally infinite number of possibilities that he can decide upon. He can decide to sit down, stand up, move his hands about his head in swirling motions, twiddle his toes, or stand on his head and twiddle his toes, while making snide remarks about a ladies pumps. Yes indeed, much of what he does on the bus is a product of his "creative thought". But if the bus had a bad "chemical" on it, like a functioning bomb, for example, that the average citizen can't reasonably know about, he is going to experience certain negative consequences from that bomb. "Defective genes" and "poisonous chemicals" are the bombs that cause schizophrenia.

Actually, the phenomenon of genes creating a predisposition, that the person then acts upon, is a well-described phenomenon called "active gene-enviornment correlation. Indeed I have discussed this phenomenon before at some length.

(I wrote most of this before Professor Deutsch's later comments) Perhaps in believing that the mentally ill "choose" their mental illness ("behavior" to Professor Deutsch), Professor Deutsch instead means that individuals' genes increase risk for certain types of feelings, and then individuals "choose" how to handle these feelings, or place themselves in an environment which helps with that choice (so called "active" gene-environment correlation). For example, most individuals with schizophrenia, experience a degree of paranoia, likely heavily influenced by genetic factors. However

the specific events or ideas which frighten those with schizophrenia, do in fact vary between people. Those with past experiences with the American government or who continually read the politics section of an American newspaper may become convinced that the CIA has implanted a transmitter in their ear, and demand to have it surgically removed. In effect, they hear a voice that they believe is absolutely real, often even rapidly turn their head to hear the "voice" more clearly, but seem to confabulate a scenario, in response to the voice that they hear. But those who grew up in the Soviet Union or China, for example would more likely devise conspiracy theories related to the KGB, or Mao, and have transmitters placed by other agencies. There are obviously an infinite number of ways of being paranoid. The confabulation, based on their underlying paranoia, however, seems to derive from themes from their own past or present, as interpreted through their paranoia, and indeed they will seem to be attracted to a wide variety of "conspiracy" theories and read about them. In this sense, we perceive* them to "choose" the themes that they build around their paranoid illness. Joe, who has a religious backround chooses religious themes.

But the patient absolutely believes the delusions are real and DOES NOT perceive them to be his choices. Telling someone with schizophrenia that he did not really hear voices speaking to him, (or that the CIA has not planted a bug in his ear) will cause him to believe that YOU are crazy, just as if I spoke to one of the readers of the "World" and then told him that he did not "really" hear my voice. (Activation of parts of the brain interpreting "sound" are identical in those who hear my speech and in those who hallucinate voices, so from the perspective of the individual in either case, both "voices" are absolutely real).

In short, we may perceive that the individual chooses the themes to build around his underlying paranoia, but the individual does not perceive he had any hand in his perceptions. And let there be no doubt: Though the individuals environment can provide the themes that the person incorporates into his paranoid delusions, the genetic and chemical bomb, nonetheless blows up and ruins the persons life. Their whole world becomes structured aroung paranoid themes whether it is the CIA for an American with schizophrenia, or the KGB for a Russian with schizophrenia.

"Why has his creative thought settled on one particular explanation as being the best, out of the infinity of explanations that would cover the experiences he has had? The story hasn't told us, but my moral opinion of him depends crucially on this."
David Deutsch

Admitedly, the story has evolved, after you made this comment. But I am describing someone with an early schizophrenic illness, which should now be apparent

If British citizens can list an infinite number of reasons to explain their consistent choices to ride a bus on a given day, but they have no idea that the bus will be bombed and have no part in planning it, do their "creative thoughts" or "choices" cause the mangling of their bodies?

It is an ethical lapse or logical error to believe that "creative thoughts" or "choices" of people on doomed British busses, lead to the mangling of their bodies. Does your "moral opinion" of their mangled bodies really much depend on what they were thinking when they got on the bus? It is an equally egregious ethical lapse or logical error, to believe that the infinitely "creative thoughts" of those with schizophrenia, lead to the correct interpretation of an act that they have no sense that they commited. How can your moral opinion of their behavior depend upon their creative interpretation of an event that they saw and heard happen (and continue to imagine happening) in a completely differently way than you did? And if you explain it to them your way, your very use of logic can cause them to misinterpret even more. To help someone with

schizophrenia, one first changes their feelings of paranoia. Their thoughts then follow. That is usually the most ethical and effective approach. Analyzing their thoughts, initially, will provide little information about their ultimate capacity for moral reasoning or understanding. Joe deserves to not be paranoid, so that he can use his "creativity" in his own interests and the interests of others, not to act upon a reality that he completely misinterprets.

"At the other extreme, imagine that he is a fine, upstanding fellow with no relevant immoral ideas or habits, and that this sudden and unpredictable brain defect is not only causing hallucinations, it is affecting the transcription of his short- to longer-term memory. He can no longer recall the attack in the pub, but only waking up half a minute ago, imprisoned by demons. He is constantly in a state of being overwhelmed by this new and bizarre situation, and is therefore quite rightly devoting his attention, first, to analysing the possibility that it really is as it seems to be. By the time he gets round to considering other possible explanations, he has forgotten, and starts again at the beginning."
David Deutsch

I can agree with you about this scenario, but if it does occur, and I can perhaps think of one or two brain malfunctions that could almost cause this, it is so vanishingly rare that it is not worthwhile (in my opinion) to discuss it further, but if you wish I will and try to formulate a hypothetical lesion that could cause this. In a sense schizophrenia is like this (a little bit) because though the person remembers, they don't integrate (well) their past and present experiences to create an overall narrative of the experiences of their life, or at any rate they don't create a narrative that makes sense to anyone else so it is almost like each disorganized thought is like "new" without logical connection to previous thoughts.

The common scenario in schizophrenia is one in which the patient remembers just fine. When friends and family come to talk with Joe about his "mental state", he gets angry and accuses some of them of being imposters. Indeed the more people try to reason with him the angrier and more paranoid he gets. He now overtly claims to be Jesus the Christ, and claims to be conducting miracles over the planet…Indeed he claims to have caused the destruction of the Soviet Union and threatens to destroy an unnamed country, if they don't turn from the "wages of sin". A prison nurse who has a little experience with patients with schizophrenia is the only one who can talk to him a bit and cause him to calm down, precisely because she plays backgammon with him and does not challenge his delusions. He trusts her a little but no one else.

His friends try to get him to see that given his mental state at the time, it was understandable for him to hit Harry, but now he does not have to believe that Harry was in league with the devil…….but Joe says he understands "perfectly well" what is going on, but his explanation has nothing to do with anyone elses. Joes efforts at understanding more about his mental condition involve reading and rereading the bible, until he finally writes a ten page tract that he says now supercedes the bible, and poor Harry is the devil's first child. When others suggest to him that he might be mentally ill, and give him literature to read, he says that as god he can rewrite all the rules. He agrees that he has completely chosen to rewrite the bible, but believes that it is his responsibility as the second coming of "Christ" to do exactly that.

"It doesn't doesn't follow from the proposition that they are demons trying to harm him, that he should not listen to their explanations. On the contrary, once he is helpless and in their power, he should listen to them."
David Deutsch
Multiple psychiatric patients are completely locked up and are

completely convinced that they are all powerful gods…..We've demonstrated (decades ago and no doubt inhumanely) that holding them down against the bed doesn't even change the patients view of his power. Indeed he is more likely to cling to the view that he is *more powerful* if you hold him down. One can see minor versions of this when frightened children (or adults) begin bragging about themselves precisely when they feel the most intimidated. But when the cognitive filter is gone that allows a person to check fantasy against reality, then the narcissistic fantasy (of being god) becomes absolutely real. Indeed to those with schizophrenia, the entire world revolves around them, often literally because they think they are the center of the universe, god himself.

This level of "rationality"…(the demons are in control of me so perhaps I should listen to them to learn their weaknesses….etc., then I can plan an escape) woefully misunderstands those with these types of psychotic illnesses. They precisely cannot build these kinds of mental models. In a sense the more you intimidate them, the stronger their grandiose delusion. If the demons think they can control him, then he will believe that he is god! No, it doesn't make sense from your or my perspective. But it is a property of thought disorganization. The effectiveness of the glue that allows someone to put his thoughts together and build logical argument and logical behavior, depends crucially on a person feeling trusting towards people and feeling calm. When trust and calm are gone, thoughts do not logically link the past and present and future, in the mind of somoeone with schizophrenia. And what seems like dark fantasy to us emerges as quiet real to someone with schizophrenia.

His family and friends certainly agree that he does not understand that he continues to have false perceptions and misunderstand reality.

Let us imagine that several months from now, Joe somehow ended up on anti-psychotic medicines (I will discuss how later), and has an excellent response to these medicines. In fact, he now fully understands how wrong it was to hurt Harry and apologizes to him profusely. He makes ammends to everyone he hurt and insulted. But he does say that he simply did not understand what was going on at the YMCA. After about 3 weeks on medicine at the prison, his clue to his false beliefs came when there were two other people on the psychiatric ward of the prison, all claiming to be Jesus, and he just started to wonder how he could be Jesus, too, and eventually started to laugh a week or so later about 3 Jesus's on the psychiatric ward. But he is adament that he did not understand what happened at the YMCA until he was on medication, and it was reexplained to him. After his release from prison he hears over and over again from other patients, and then checks the literature and finds that there are thousands upon thousands of patients with schizophrenia many of whom, on medication, said they simply did not understand what they were doing when they were psychotic, because they had fixed and false ideas that colored all of their other perceptions.

Professor Deutsch, is it possible that Joe really did not understand, despite his best efforts to understand, that he had a psychotic mental state that lead him to misperceive the intentions of others and see inaccurately the events as they occurred at the YMCA? Is it possible that he continued to not understand what happened at the YMCA until he took medication? He began understanding only when he was on anti-psychotic medications for several weeks. Is it possible that Joe is telling the truth about continuing to not understand what happened at the YMCA until he got on anti-psychotic medication, and then others, whom he now trusted,

explained the sequence of events at the YMCA and he believed

them?

by Michael Golding on Mon, 07/25/2005 - 05:37 | **reply**

The 'previous question'

This passage

> Do you think it is possible for someone like Joe to continue to *not understand* an explanation given to him concerning why it was wrong to hit Harry, despite Joe's best efforts? In other words, do you think it is possible for someone like Joe to hallucinate so vividly and to be so paranoid and delusional, that he believes […]

consists of two questions. The second one claims to be the first one stated in other words. But it is not. The first one asks whether a certain state of affairs (Joe continues not to understand) is possible. The second asks whether that state of affairs could be caused through a particular mechanism (vividness, paranoid, delusional).

If the answer to the second question is yes, then the answer to the first must be too, because if a state of affairs can be caused by a certain mechanism, then that state of affairs can happen. But if the answer to the first question is yes, then nothing follows about the second, for it is possible for a person not to understand things that are explained to him, however carefully, and yet for this not to be due to the stated mechanism of vivid hallucinations, paranoia and delusions.

Hence the second question is not the first question stated in other words.

by **David Deutsch** on Wed, 07/27/2005 - 02:55 | **reply**

But Joe is psychotic

But David, he previously said that Joe is psychotic *as well* as having hallucinations. So when he says "someone like Joe", he means someone psychotic. And someone psychotic is defined by the dictionary as someone with "a mental distortion causing gross distortion or disorganization of a person's mental capacity, affective response, and capacity to recognize reality". So the answer to his question "could someone like Joe fail to understand that what he did was wrong" must be yes, by definition.

by a reader on Thu, 07/28/2005 - 11:53 | **reply**

But Joe is psychotic

Thank you so much for helping to express this idea. I agree with you.

I am wondering (now) whether someone like Joe, given the additional information I have presented and in addition despite all reasonable attempts to use verbal pursuasion to convince him to change his mind; I am wondering whether Joe could still fail to understand that what he did was wrong (i.e. maintain a psychotic perspective about the incident at the YMCA)?

Thanks.

by Michael Golding on Thu, 07/28/2005 - 15:01 | **reply**

But Joe is psychotic

Sorry, but now *I* don't get it (I wrote the comment two above

this one). Since the answer must be yes by definition, how can you be wondering what it is?

by a reader on Thu, 07/28/2005 - 15:39 | **reply**

Reply to Kolya

I first posted this on my **blog**, but I wasn't sure if Kolya would see it there and thought it might be of interest to others:

Dear Kolya,

I really appreciate your comments although I think so far, I tentatively disagree with some of what you've said.

Debilitating behavioural syndromes such as schizophrenia, manic depression and eating disorders are real. But it's highly tendentious to call them illnesses, because the prevailing theories about their causes, their consequences and their remedies are all morally very controversial. By calling these syndromes "illnesses" we gloss over that controversy and hand over authority to adjudicate on these moral issues to a "priesthood" of psychiatrists who lack any special moral insights for dealing with them. While there exist some wise and humane psychiatrists and therapists, as an objective body of transmissible knowledge, psychiatry is, as Szasz rightly says, just like alchemy.

I think refusing to call mental problems(or controversies) "illness" has already led to a serious problem - moralists who heap blame, shame, and guilt on those who genuinely need medical or some type of help. At least when they're diagnosed with an illness, people with these difficulties can be treated as deserving of help and with some optimism about living better lives.

I'm not convinced that doctors and scientists aren't doing a better job than "moralists" have done so far. Sure they've made and will continue to make mistakes, but at least they're trying to find ways to test their theories and correct them.

Good moral knowledge could help with this, but I don't think it's enough. The record for helping such people outside of the medical community hasn't been very good.

I know people who seem to have been substantially helped by anti-depressants and therapy. I also know of people who actually seemed to be hurt by it. I think this could be a problem with fitting the best solution to the patient. In some cases, substantial life changes (moving, divorce, etc) seemed to bring about a lot of improvement.

It's hard to say whether it was the person who was particularly sensitive to the environment, the environment/interactions being particularly bad for him, or whether there was some brain difficulty. Sometimes change was suggested by a therapist and sometimes it wasn't. I wouldn't say this is a lack of good knowledge about it, just a particular difficulty or mistake with finding the best way to help the particular person. It could have been that for a person in a seemingly similar situation, drugs and therapy would have helped. I think knowledge about how to find the best way to help will improve.

However, it would be ridiculous to suggest that just because the prevailing psychiatric theories are wrong, serious mental disorders don't exist. They exist all right; it's just that they are not illnesses in any useful sense of the word. Having said that, we cannot entirely de-couple the management of these problems from the medical profession, because prescription-only medication has a legitimate role to play in the management of mental disorders. Moreover, as

some behavioural disturbances are caused by genuine illnesses such as thyroid malfunction, brain tumours and Alzheimer's, it makes sense for doctors to be involved in the evaluation of certain kinds of mental/behavioural disorders.
Kolya | 07.17.05 - 8:28 am |

I think mental disorders do share some important characteristics with "medical illnesses" in that they're an "impairment to normal functioning". Personally, I think "healthy" would be a better term - as in "impairment to healthy functioning" (being different from "normal" might not actually be an impairment to health).

This doesn't mean a person can't manage to function well in spite of illness - physical or mental - at times. It doesn't mean there won't be mistakes made about what it means to actually be "impaired", what it means to be "normal" or "healthy" mentally, and whether a particular person is "healthy" and "normal".

If there are problems with the system for avoiding and correcting those mistakes, then those problems can and should be addressed and improved. I've been really impressed with the bits of medical history I've read so far. Yes, there have been plenty of big mistakes, but there have been some amazing improvements and breakthroughs.

Cheers,
Becky

PS - I think Mr. Golding's explanation about how Joe's evaluation played out is how it could be "well done" and still not perfect. Not all evaluations are as carefully done. I do agree that there can be some harmful consequences to some indiviuals at times because not all professionals are good at their profession. This seems like an issue of getting more professionals to be good at their job.

by **beckyam** on Thu, 07/28/2005 - 16:58 | **reply**

Psychotic Joe

In the past (at the YMCA), Joe had a psychotic interpretation of the event. Now he is in jail. People have tried to pursuade him. New events have occured. Joe has thought further about the event given his interpretation of what others said. Several new events were related in the story above. Despite the best efforts of others to pursuade him, is it reasonable to assume that someone, like Joe, can be pursuaded using words alone, to *not* have a psychotic view of the events, even though he had a *psychotic view* in the past? Can you, in general, change the delusional views of someone like Joe by reasoning with him (Most psychiatrists would say that Joe was experiencing a relatively severe case of a first psychotic break, and his illness will likely progress to schizophrenia.) Is someone like Joe likely capable of *understanding* the true situation that happened at the YMCA, if others use words to pursuade him, but not medications?

Thanks. Hope that clarifies.

by Michael Golding on Thu, 07/28/2005 - 18:06 | **reply**

Psychotic Joe

By the way, in case it is not obvious, medications "pursuade" by changing feelings, which then allow the individual to change thoughts.....actually a bit more complicated than that, since attentional factors and multiple other mechanisms seem to be involved.

by MIchael Golding on Thu, 07/28/2005 - 22:40 | **reply**

Someone like Joe

> Is someone like Joe likely to be capable of *understanding* the true situation that happened at the YMCA, if others use words to persuade him, but not medications?

By definition, no.

But perhaps you mean: might someone like Joe (i.e. someone psychotic by the above definition) be capable of ceasing to be psychotic through some process not involving drugs? Unfortunately I don't know, because the answer depends on something no one knows at present, namely the mechanism by which a person becomes psychotic. But I think I could give a halfway useful answer if I knew the answer to this question: on the occasions when someone has been mistakenly diagnosed as (already) psychotic, how is that mistake typically discovered?

by **David Deutsch** on Fri, 07/29/2005 - 21:38 | **reply**

Re: Reply to Kolya

Becky wrote:

> I think mental disorders do share some important characteristics with "medical illnesses" in that they're an "impairment to normal functioning". Personally, I think "healthy" would be a better term - as in "impairment to healthy functioning" (being different from "normal" might not actually be an impairment to health).

Can you not think of other conditions that also 'share some important characteristics with "medical illnesses" in that they're an impairment to healthy functioning', but which it would be morally wrong and practically harmful to think of as illnesses?

If so, what is the significant difference between *those* things and 'mental illnesses'?

by **David Deutsch** on Sat, 07/30/2005 - 18:13 | **reply**

Mental Illness vs. Impairments to health

Good question.

I'm having trouble thinking of a specific example such as you suggest.

I can see where my description falls short, but I've gone around several different ways of describing it and see no way of looking at it that doesn't become a confusing jumble.

Thinking of poor Joe. It seems "obvious" that he's got a mental impairment and needs help. This is partly based on my thinking there are no demons (or Jesus or anything "supernatural") and yet I don't propose curing all religious people of an "illness" (that doesn't sound like a bad idea on the surface, but I expect there are some huge complications and moral problems with that).

Along this vein, what if the girls of Salem had all been treated? The story goes that some girls started acting very strangely and lacking any explanation for a physical cause, their neighbors and relatives went on to conclude that it was satan at work. The descriptions of their behavior sound rather scary and make me wonder whether

there wasn't some exposure to toxic chemicals. Why did all their

neighbors and friends assume it was the work of witchcraft vs. some as-yet-undiscovered ailment? Would they have refrained from burning people at the stake? It seems like there's a fair chance they would have agreed with Joe about some of his delusions! It seems that in the case of the girls, they likely needed medical treatment. In the case of the neighbors, they needed better ideas. Better ideas could have eliminated a lot of needless deaths and helped the girls, so would better medical knowledge and even the expectation that physical ailments might explain their behavior (even if the specific cause never get discovered).

OTOH, what if Joe's exact problem is distinguishing his own fantasy from his own concept of reality? He generally doesn't think he's Jesus or that demons make themselves visible, but is in such a state that what are normally imaginings get confused with reality.

The only difference that I can see between Joe and the people of Salem a long time ago might be that Joe eventually thinks that he'd been wrong. Perhaps some of the people of Salem came to think so too later..

Would it have been harmful to think of all the people in Salem as being mentally ill vs. murderers? Possibly. Maybe treating them as responsible and culpable would deter others from drawing hasty conclusions about things based on flimsy evidence.
Becky

by **beckyam** on Fri, 08/05/2005 - 17:33 | **reply**

Some impairments to healthy functioning

Some conditions of the brain which in my opinion are, under typical circumstances, impairments to healthy functioning, but which it would be morally wrong and practically harmful to think of as illnesses are (in no particular order):

- Having a devout religious belief according to which the highest achievement in one's life would be to become a suicide bomber and kill as many Americans or Jews as possible.

- Hating school.

- Believing that one has paranormal abilities and that scientists are ignoring the evidence of this because they are too set in their ways.

- Same, but with believing that one has been abducted by aliens.

- Believing that one's spiritual leader is in communication with aliens.

- Believing that gay people are an abomination.

- Believing conspiracy theories.

- Believing that alternative medicine can cure cancer.

- Being sad at the loss of a loved one.

- Being sad because one has frequent headaches.

- Being sad because believes that one's one's face is unattractive.

- Believing that one is fat.

- Believing that Blair and/or Bush lied about WMD.

- Believing that a fertilised human ovum is, morally, a person.

- Believing that the essence of morality is to sacrifice oneself for

others.

OK, I think that covers more or less everybody. :)

by **David Deutsch** on Fri, 08/05/2005 - 21:21 | **reply**

"girls of Salem"

There is no comparison between the "girls of Salem" and Joe.

Those with experience using structured diagnostic instruments (like the SCID), easily and reliably distinguish between those with schizophrenia and those with unusual religious beliefs, as long as the person doing the examination is familiar with the dialect and idioms of the person being questioned.

Religious people routinely tell us they speak with G-d and or the devil, or even that they can speak to serpents, their dog or whatever. They tell us that a deity caused a tree to fall on their house as well, usually to punish them. They have different belief systems than I, but they do not have schizophrenia unless they have a number of other characteristics.

Those with schizophrenia utilize a unique logical pattern as they reason. This pattern is relatively easily discernable in their thinking, if a trained clinician listens to them for a minute or two, let alone throughout an hour interview. I spoke about this pattern a little bit when I was responding to a comment made by Professor Deutsch.

It is scientifically inaccurate to claim that schizophrenia can not be (easily) distinguished from religious belief and hysterical reactions.

Moral guidance over time may have helped "the Salem girls," but will do nothing to change the delusional beliefs of those with schizophrenia, as has been documented by thousands of studies and case reports.

Thanks.

by Michael Golding on Sat, 08/06/2005 - 04:17 | **reply**

Re: Some Impairments to Healthy Functioning

Professor Deutsch,

Do you think the bodily/brain states, associated with the beliefs you named above, are phenomena that have moral and scientific implications, equivalent to the moral and scientific implications of someone with the bodily/brain states associated with bipolar illness? Type II diabetes?

by Michael Golding on Sat, 08/06/2005 - 04:36 | **reply**

Re: Some Impairments to Healthy Functioning

> Do you think the bodily/brain states, associated with the beliefs you named above, are phenomena that have moral and scientific implications, equivalent to the moral and scientific implications of someone with the bodily/brain states associated with bipolar illness? Type II diabetes?

The mental states on that list, and the mental states associated with bipolar illness and type II diabetes, are all different in some ways and alike in others. They all have in common that they impair healthy functioning. Virtually no one would want to call them *all* illnesses, and hence the list as a whole demonstrates that "impairing healthy functioning" is not a sufficient criterion for being

a disease.

They also have in common that it is rare for moral guidance alone to restore healthy functioning. They also have in common that if, as a result of being in one of these states, the sufferer hurts an innocent person, then their moral responsibility depends not on the state itself but on the choices that they took before and during the event. None of them are illnesses, but many can be caused by illnesses, and they vary greatly in how harmful a mistake regarding them as illnesses is likely to be. They also have in common that it is immoral to do anything to the sufferers against their will other than in self-defence.

On the occasions when someone has been mistakenly diagnosed as psychotic, how is that mistake typically discovered?

by **David Deutsch** on Sat, 08/06/2005 - 11:13 | **reply**

Genes Affect Behavior

Genes Affect Behavior.

1. Neuro-surgical stimulation of the brain at various places causes individuals to behave in particular ways and report particular types of psychological experience. A person's thoughts, feelings, and behavior are therefore at least partially dependant on the changing neurophysiological output of the brain. Genes have been shown to influence the physiological output of every organ in the body. Is it not odd that genes can influence the output of literally every organ in the body, but cannot influence the output (thoughts, feelings, and behavior) of the BRAIN?

2. Mammalian exploratory behavior/investigation of novel environments (NOVELTY SEEKING) is known to be heavily influenced by DOPAMINE transmission (particularly in limbic areas). Rodents genetically engineered to transmit less dopamine explore their environment less. Those rodents genetically engineered to transmit more dopamine explore more. A non-novelty seeking genetically engineered rodent can be converted into a novelty seeking rodent by giving drugs enhancing dopamine transmission (e.g. L-dopa) and the reverse can occur to novelty seeking rodents by giving dopamine blockers.

Between 40-60% (depending upon study) of the variability in HUMAN NOVELTY SEEKING is explained by genetic factors. The gene D4DR in humans, codes for different types of DOPAMINE 4 RECEPTORS in the brain. Differences in the single gene D4DR, explain approximately one-quarter of the genetic component of the variance in novelty seeking in humans.

The Cloninger scale is used to measure "novelty seeking" in humans. It has been validated repeatedly using common sense notions of behaviors associated with "novelty seeking". Therefore a specific genetic alteration in the human genome causes a specific change in the shape of a dopamine receptor in the brain (D4), and this receptor difference in turn changes the average way in which humans fill out a questionnaire measuring novelty seeking.

These genetic studies have been confirmed several times in humans with (to my knowledge) only one study not confirming the results (a small Finnish study). This D4DR gene explains about 25% of the heritable human varience in what is termed "novelty seeking". Mammalian studies have also conclusively demonstrated that genetic changes similarly alter brain receptors, which in turn change novelty seeking in animals, by affecting dopamine neurotransmission.

Would it not be odd if the genetic mechanism in animals that

increases novelty seeking via known brain mechanisms, does so in all mammals studied: But only when the gene involved seems to cause virtually identical changes in the human brain, also associated with increases in novelty seeking, do we say the gene is not really involved?

3. Would it not be odd if Darwinian evolution created genes that change virtually every bodily function to help promote survival of the organism, but the psychological functions in humans arguably more important to fitness and reproduction than virtually any other function (when to feel happy or sad, ability to intuitively model the mind and intentions of others, when to focus on avoiding harm, when to be sexually interested or disinterested), these functions critically important to genetic reproduction, are not at all causally linked to genes?

4. Five generations of a Dutch family have been found in which remarkably violent and hypersexual males are all related through their mothers. Not one affected male has an affected son, but (unaffected) females in the family have sons that exhibited these unusual behaviors, suggesting an "X-linked" disorder like color-blindness.

Indeed, the aberrant gene in the affected males was found on their X chromosome. It was found to have a mutation that prevents monoamine oxidase A from being produced in the brain. Monoamine Oxidase is an enzyme that is targeted by various drugs, particularly anti-depressants. It breaks down key signaling chemicals in the brain (serotonin, dopamine, norepinephrine). Men committing arson, rape, attempted homicide, etc. in this Dutch family, all were found to have the genetic mutation; those without a criminal history did not have the mutation.

Some doubted that a single and subtle genetic mutation could cause such widespread behavioral change in a human and suggested that perhaps other factors accounted for the violence, and not the absent monoamine oxidase. So animals were genetically engineered to be identical to other animals, except that the engineered animals were designed to have the same small mutation in the gene that the human family has – the mutation that prevents production of Monoamine Oxidase A. Remarkably, in differing only in Monoamine Oxidase A production, the deficient animals repeatedly attacked and repeatedly tried to kill otherwise identical animals not deficient in the enzyme. They also were far more sexually aggressive when paired with females. In other words the animals, like the humans with the monoamine deficiency, showed the same increased propensity to violence and sexually aggressive behavior.

Neuroscientists have manipulated monoamine levels in healthy, non-depressed humans. Carefully controlled studies demonstrate that with special dietary interventions, for example utilizing the tryptophan deficiency paradigm, lowering serotonergic neutotransmission dramatically alters mood states. For example, we can change healthy, happy people into depressed and irritable people just by changing neurotransmission, and then reverse this effect with various medications and dietary interventions. Controlled studies have also demonstrated that we can alter anger and sexual drive by changing monoamine neurotransmission.

So there is abundant evidence (in humans) that altering monoamine neurotransmission (via neurochemical and dietary interventions) affects mood state, irritability, and sexuality. It should not be surprising, therefore, that when a genetic mutation (like in the disturbed males in the Dutch family) also alters the same monoamine neurotransmission, behavioral effects occur just as they do with dietary interventions, and just as they do in animals

with the identical mutation causing monoamine alterations.

Would it not be odd if animals genetically engineered to lack a particular monoamine enzyme become more aggressive and sexual due to changed monoamine levels, humans experiencing interventions changing monoamine concentrations become more aggressive and sexual; but humans with an identical genetic mutation as animals, causing an identical change in monoamine levels, associated also with increases in violence and sexual aggression: Would it not be odd if these monoamine changes, just because they were caused by a gene, have nothing to do with the subsequent behavioral effects?

5. In the absence of specific known mechanisms connecting gene products to particular outputs from the brain, how would genetically based mental illnesses exhibit their polygenetic characteristics to investigators? Obsessive Compulsive disorder, Schizophrenia, Bipolar illness, and to some extent Major Depression all have (1) high monozygotic:dizygotic ratios, (2) low sibling risk, (3) high first-degree relative risk (4) Predictable (but non-specific) pathophysiology of a relevant organ (brain) and (5) Cause pain and suffering

a. These are exactly the results that are mathematically predicted for illnesses with polygenetic origins in which the specific pathophysiology has not been discovered.
b. These are exactly the results found in polygenetic illnesses of multiple organs in the body, in which more exact genetic mechanisms have been ascertained.
c. There are no cases that have been discovered in which illnesses which were consistently found to have the above 5 characteristics were found not to be genetic in origin.
d. Obsessive Compulsive disorder, Schizophrenia, Bipolar illness, and Major Depression all have the above 5 characteristics.
e. Would it not be odd if Obsessive Compulsive Disorder, Schizophrenia, Major Depression, and Bipolar syndrome, amongst the thousands of genetically based illnesses which share the above 5 characteristics: Would it not be odd if these illnesses were the only illnesses of thousands (with the five characteristics) that turn out not to be genetically based?

6. Malfunctioning genes can cause malfunctioning in literally every organ in the body. Would it not be odd if the brain were the only organ in the body that is not subject to effects from malfunctioning genes? What types of symptoms would a brain that is malfunctioning (due to malfunctioning genes) exhibit, except changed behaviors and changed thoughts and feelings, otherwise known as mental illnesses caused by neurological dysfunction?

by Michael Golding on Tue, 09/20/2005 - 00:50 | **reply**

Can the Editors Admit when he is Wrong?

"He states that mental illness is like Type 2 diabetes and other illnesses for which we do not know the exact cause. Type 2 diabetes results when a person's body does not make enough insulin. As such there is an objective chemical marker for Type 2 diabetes -- lack of insulin."

In type 2 diabetes, insulin levels are often elevated. The cause(s) of type 2 diabetes are not known. And type 2 diabetes is defined by a committee of experts (just as mental illnesses are), and the definition changes regularly.

Can the editor admit when he is wrong?

by a reader on Wed, 09/21/2005 - 15:38 | **reply**

Re: Can the Editors Admit when he is Wrong?

Sure. Could you give us a link to the wrong statement, and we'll admit it's wrong right away.

by **Editor** on Wed, 09/21/2005 - 16:04 | **reply**

Re: Genes Affect Behavior

There is no shadow of a doubt in my mind that genes affect behaviour. So we're agreed on that point.

Now, on the occasions when someone has been mistakenly diagnosed as psychotic, how is that mistake typically discovered?

by **David Deutsch** on Wed, 09/21/2005 - 16:25 | **reply**

A Link to the Wrong Statement

Not exactly sure what you mean by asking me to provide "a link to the wrong statement." Are you asking me to provide a link (in this response) to the quoted (wrong) statement? If so, the incorrect statement, which the editor wrote, is in this very blog, under Science and Superstition, under Re: Serious Mental Illness is Hereditary, 2nd paragraph.

I don't know how to put computerized links in responses.

But perhaps you are asking for a link to information that is correct about type 2 diabetes? Any Google search, quoting some type of credible source, will provide information about diabetes. It is a syndrome with multiple (mostly unknown) causes, and its definition is decided by a committee of experts, just like mental illness. It tends not to cause organ damage for years, just like mental illness.

The issue is not whether we know exactly what causes something (although it is very nice to know) but rather whether the definitions PREDICT a progressive pathophysiology, damage to organs, and pain and suffering. Illnesses, like mental illness and diabetes, cause damage to organs and pain and suffering.

For mental illnesses like depression, bipolar illness, and schizophrenia, definitions are very predictive of progressive organ damage, as they are for type 2 diabetes. The issue is whether the definitions used and subsequent findings from various types of examination are reliable and predictive.

In addition, bipolar illness and schizophrenia happen to be far more genetically based illnesses, therefore caused by internal bodily factors, than type 2 diabetes, if a patient is in his or her 20's. In other words environmental and cultural variables predict far more the development of diabetes, than bipolar illness or schizophrenia (if the patient is in his or her 20's).

Editor:
"He states that mental illness is like Type 2 diabetes....for which we do not know the exact cause. Type 2 diabetes results when a person's body does not make enough insulin. As such there is an objective chemical marker for Type 2 diabetes -- lack of insulin"

If an editor of "**The World**" wishes to learn about diabetes, before explaining it to me, he or she may wish to read a little bit about his subject.

From Medline Plus Encyclopedia

"Diabetes affects up to 6% of the population in the U.S. Type 2

diabetes accounts for 90% of all cases.
A main component of type 2 diabetes is "insulin resistance". This means that the insulin produced by your pancreas cannot connect with fat and muscle cells to let glucose inside and produce energy. This causes hyperglycemia (high blood glucose).
To compensate, the pancreas produces more insulin. The cells sense this flood of insulin and become even more resistant, resulting in a vicious cycle of high glucose levels and often high insulin levels."

Or an editor can read this...
From a University Web site.
http://64.233.161.104/search?
q=cache:PQr41Ld0F5IJ:darwin.nmsu.edu/~molbio/diabetes/disease.html+elevated+insulin+type+2+diabetes&hl=en

Type II diabetes is associated with obesity and with aging. It is a lifestyle-dependent disease, and has a strong genetic component (concordance in twins is 80-90%). The problem seems not so much in insulin production, but that when the insulin reaches its target cells, it doesn't work correctly.Most Type II diabetes patients initially have high insulin levels along with high blood sugar. However, since sugar signals the pancreas to release insulin,Type II diabetics eventually become resistant to that signal and the endocrine-pancreas soon will not make enough insulin. These people end up managing the disease with insulin and they need much higher doses because they are resistant to it."

"Science and Superstition"....Indeed.

I will (briefly) explain how to distinguish schizophrenia from other psychotic states and non-psychotic illnesses in my next post.

Michael Golding

by a reader on Thu, 09/22/2005 - 01:23 | **reply**

Type II diabetes

Mr Golding is correct when he writes that doctors test for diabetes by measuring the **level of sugar** in the blood of patients not by measuring insulin.

by **Alan Forrester** on Thu, 09/22/2005 - 02:39 | **reply**

Miss the Point (again)

You miss the point (again), Mr. Forrester, as has been pointed out to you by 3 doctors and multiple posts.

Decreased insulin does not CAUSE diabetes and neither does an elevated fasting blood sugar, although both can sometimes be useful to measure. Definitions of type 2 diabetes are created by a committee of people as are definitions of mental illness. The definitions are evaluated based on whether they are reliable and WHAT THEY PREDICT.

If asking someone whether he has a dry mouth and urinates frequently and if asking him about his eating habits, predicted the consequences of diabetes (e.g damage to kidneys, brains, and eyes, etc) with no additional information from a blood sugar, then we would solely ask questions, in order to diagnose type 2 diabetes. We would not check a blood sugar. It is not that type 2 diabetes is "objective" and major depression is "subjective." We have blood tests for major depression, as well. These blood tests just don't predict outcomes as well as clinical interviews (at this point).

The issue is reliability of a finding (whether interview question or

blood test) and its ability to predict damage to the body and future pain and suffering. We have not discovered THE MAJOR CAUSES of type 2 diabetes or major depression, so the underlying pathophysiological disorders are not known for either. But the presence of Major Depression, for example, is at least as important as the presence of diabetes in predicting morbidity and mortality after a heart attack, according to many studies in which they have been compared. And both certainly cause pain and suffering.

So major depression is an illness and so is type 2 diabetes, because both are reliably diagnosed, both predict damage to organs, and both cause pain and suffering.

NB: Lynching or homophobia or advertising fast food are not illnesses. But BODILY REACTIONS to these cultural factors can be (e.g. infection in response to the start of lynching, major depression in response to exposure to persistent homophobia, and developing diabetes if someone consistently eats too much in response to advertising.)

Unfortunately, neither you nor Professor Deutsch have been able to understand these straightforward concepts, and I am not sure why. So you label schizophrenia, and bipolar illness and major depression "fake" but other syndromes, like type 2 diabetes, real.

Science and Superstition. Indeed.

by Michael Golding on Thu, 09/22/2005 - 04:55 | **reply**

Re: miss the point

I believe your position is the following:

Serious mental illnesses are, like all illnesses, physiological phenomena that cause suffering. We know this from evidence such as: (1) Like diabetes and other illnesses, they have detectable biochemical and biophysical effects, which can be measured in life and at autopsy. (2) They are heritable. The mathematics of their heritability leaves no room for rational doubt that variant genes are a cause of mental illnesses in the same sense as they are a cause of diabetes. Yes, the environment and the patients' own choices also affect the incidence and course of mental illnesses, but that is no counter-argument because the same is even more true of (type 2) diabetes. (3) In some cases both the gene responsible for a mental illness and its mode of action have been discovered. (4) In some cases the signs and symptoms of a mental illness have been created artificially by inducing chemical changes in volunteers. (5) The signs and symptoms of most mental illnesses can be alleviated, often dramatically, by treatment with drugs. This has been established beyond doubt in clinical trials using the same double-blind methodology as any other tests in the science of pharmacology.

Mental illnesses cause characteristic behaviours which are used, along with biochemical and biophysical tests, in diagnosis, but again, the same is true of many non-mental illnesses, and it is not the case that modern medicine *defines* mental illnesses as behaviours. So in short, none of the alleged differences between the two kinds of illnesses exist in reality. Therefore, classifying mental illnesses as 'fake illnesses' is logically unjustifiable. But worse, it stigmatises the sufferers as fakers, malingerers or criminals, etc. It also stigmatises the professionals in the field of mental health, who are saving and repairing lives every day. Furthermore, it actively harms the sufferers by seeking to deny them the treatment that would help them, by blaming them for 'choosing' to be ill, and by persuading legislators and others to believe that scientific research into the physical mechanisms of mental illnesses is worthless

because those conditions are not physical in origin.

Is that an accurate statement of your position (to the extent that a couple of short paragraphs can be accurate and complete)?

by **David Deutsch** on Sat, 09/24/2005 - 00:53 | **reply**

History of Mental illlness

Is it possible that biology can change so quickly that even when they control for things like people going to the doctor more and other cultural changes, depression could increase such that people born since 1945 are 10 times more likely to suffer from depression as those born before?

I believe other mental illnesses have also increased to surprising degrees. Is this consistent with the idea of mental illness as a disease, or as mental illness as heritable? If so, could you explain?

This is not a rhetorical question.

by a reader on Sat, 09/24/2005 - 06:42 | **reply**

Hysteria has declined too

Hysteria has declined sharply in a very short time in India:
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=1544018

Secret government gene therapy experiments? Or what?

by a reader on Mon, 09/26/2005 - 00:15 | **reply**

Diabetes: A "Fake" Disease Invented by the Communists?

"It is perhaps not generally appreciated that in the United States diabetes, or at least the recognition of the disease, has increased about 300 percent over the last fifteen years. It is the second leading cause of blindness, and the third cause of death. In 1950 there were 1.2 million diabetics in the United States; the estimation now is that there are over 10 million, yet the population has increased by only 50 percent."
Harris Coulter, Ph.D., April 16, 1997. Testimony House of Representatives.

How did the genes evolve so fast??

by Michael Golding on Mon, 09/26/2005 - 03:29 | **reply**

I like a bit of both.

Genomes encode proteomes that include such things as dopamine and serotonin receptors, enzymes that synthesize dopamine and serotonin from from their amino acid precursors, enzymes which breakdown dopamine and serotonin etcetera.

The large number of genes involved in neuronal function makes the human brain a large mutational target.

If the brain is the organ of behaviour (and I believe it is) it follows that genetic mutations can influence behaviour.

It follows that there could, at least in principle, be a number of clinically recognised behavioural diseases that result from genetic polymorphisms (differences).

Furthermore, as genes are the units of hereditary, it follows that

these diseases of behaviour would be heritable. That is to say they would run in families.

As the brain is such a large potential target for genetic mutation, different mutations may be of greater or lesser import. There could therefore exist a spectrum of behavioural disease that is clinically continuous with what we regard as normal. By analogy there is a spectrum of glucose tolerance (how effectively the body deals with glucose) in the population that is created by polymorphisms in the enzymes that are involved in metabolism. Not everybody with an impaired glucose tolerance test would satisfy the criteria for diabetes mellitus just as not everybody with bizarre or eccentric behaviour would be satisfy the criteria for a mental disease.

This doesn't necessarily mean that environmental factors are unimportant (either in diabetes or mental illness). It is possible that genetic factors might confer a susceptibility to both diabetes and/or mental illness but environmental factors might be necessary for the expression of the disease.

Our need to create order in a complex world begets one of the worst errors of human thinking: dichotomy, or our tendancy to reduce a truly intricate and multivariate set of shadings into two diametrically opposed alternatives (Claude Levi-Strauss and the French structuralists have based an entire theory of human nature on this premise- I believe they are a bit over-extended in their arguments. Over-extension of good arguments is another common, and woeful, error in human thinking).

So many fatuous arguments stem from silly dichotomies. Nature or nurture is one of the most pervasive of our age. What's wrong with a bit of both?

Kieren

by Kieren on Fri, 10/21/2005 - 21:41 | **reply**

Very Well Said and Thank You

Michael

by M Golding on Tue, 10/25/2005 - 01:57 | **reply**

Re: I like a bit of both

> If the brain is the organ of behaviour (and I believe it is) it follows that genetic mutations can influence behaviour.

This much is true. Babies have certain ideas about causality from a very early age as determined by observing that they look surprised if certain unexpected events happen.

> It follows that there could, at least in principle, be a number of clinically recognised behavioural diseases that result from genetic polymorphisms (differences).

Doesn't follow even slightly. People can criticise behaviour and theories including behaviour and theories that happen to have a biological origin. For example, whatever our genetic theory of physics might happen to be we have refuted it in favour of general relativity and quantum physics. There also seems to be a common bias against markets which may be a result of genetically programmed ideas of fairness, butg these ideas can be refuted as illustrated by the work of pro-free-market economists like Hayek. As a result we can't explain differences of opinion or behaviour by referring to genes. Rather we have to say something like: people

may inherit theories or behavioural propensities encoded in their

genes but if there exists a good criticism of the behaviour or theory concerned then we have to explain its persistence by the person either not coming across that criticism or rejecting it for some other reason. For example, if a person has a genetically caused tumour that secretes adrenaline and the tumour makes him feel jumpy we can't explain him treating other people badly as a result of his jumpiness unless nobody has explained to him why he shouldn't treat people badly or by him coming up with some rationale as to why he should treat people badly, e.g. - everyone else is his moral or intellectual inferior and so they deserve to be treated badly.

A disease may cause bad enough brain damage to stop a person from thinking but these cases do not resemble most mental illnesses in any important respect. For example, washing your hands repeatedly does not resemble not thinking about washing your hands. Rather a person might interpret anxiety in such a way that she associates handwashing with making it go away. For example, if she had some disease in childhood she caught as a result of not washing her hands after going to the toilet she might have started to feel anxious as a child when she didn't wash her hands after going to the toilet and the anxiety might go away when she washed her hands and this ritual might bleed into other parts of her life. For example, she might notice that pavements tend to be dirty and start worrying about whether she might catch diseases by not washing her hands after going outside. Note this is not the same as not thinking it is the same as having a silly idea.

> Furthermore, as genes are the units of hereditary, it follows that these diseases of behaviour would be heritable. That is to say they would run in families.

Starting out with bad ideas or behaviours might run in families as a result of genes. Continuing to hold those bad ideas or behaviours must be explained by not learning better ideas through ignorance or rationalisation of bad ideas or behaviour as explained above.

Alan Forrester

by **Alan Forrester** on Sat, 08/25/2007 - 23:31 | **reply**

Is it Possible to Reject Your Hypothesis?

Alan,
Do you think pain is real? When pain serves no useful function, is this chronic pain then an illness?

Most (but not all) mental illnesses are types of pain. Indeed if you superimpose MRI/SPECT scans of brains of people in pain and people suffering from depression, it is virtually impossible to tell the difference. I can forward you the pictures if you like....see if you can see a difference.

Note that pain has no "lesion" that defines it, yet most people think it is quite real. We recognize that people are in pain by their descriptions of it and their behaviors, just as we recognize mental illnesses by the same means.

Is there any experiment possible, even in principle, that would refute the notion that types of OCD and depression are caused by a person's own thoughts/parenting/culture?

Is there any experiment possible, even in principle, that would refute the notion that types of chronic pain are caused by a person's own thoughts/parenting/culture?

by a reader on Mon, 10/01/2007 - 19:23 | **reply**

Incorrect Word

In the paragraphs above, the question should read,

Is there any experiment possible, even in principle, that *could* refute the notion that types of OCD and depression are caused by a person's thoughts/parenting/culture?

by a reader on Mon, 10/01/2007 - 21:43 | **reply**

so mental illness equals find

so mental illness equals finding your life painful?

by a reader on Mon, 10/01/2007 - 22:58 | **reply**

Mental Illness

No. Most mental illness is a type of chronic pain. One can intellectually know that one's life is going well and still be depressed and hurting; just as one can intellectually know that the physical functioning of one's body is good and still be in terrible pain.

by a reader on Mon, 10/01/2007 - 23:16 | **reply**

Intellectually

Your comment is interesting to me because it might reveal a misunderstanding we have. Certainly it's true that having an intellectual theory about one's life often fails to defeat depression. But why did you bring that up? Absolutely nobody thinks that intellectual theories easily conquer all.

I'm concerned you may think my position that mental illness may be idea based implies either that intellectual ideas have something to do with it, or that one could simply choose to have other ideas and be cured. Neither of those is the case.

-- Elliot Temple
curi@curi.us
Dialogs

by **Elliot Temple** on Wed, 10/03/2007 - 06:12 | **reply**

Can it Be Shown to be False?

The point is straightforward.

Is there any experiment possible that could show that for certain types of major depression and OCD, thought/parenting/culture is not the explanation?

Readers should note that when we discuss measurable phenomena, no research is relevant (no genuine scientific inquiry is possible) by a person who thinks that no evidence that he might find could show that his ideas are wrong.

"1. I think X explains measurable phenomena Y. (Or, "I think thought causes pain, depression, OCD, autism, heart disease, cancer etc.)
2. No evidence (even in principle) can show that I am wrong.
3. Therefore X explains Y"

Yes, such reasoning is tautological and probably solipsistic. Yes, it has much more to do with superstition than science.

by a reader on Thu, 10/04/2007 - 00:09 | **reply**