

Talk #9 Consciousness¹

Consciousness is not some extra glow or aura or “quale” caused by the activities made possible by the functional organization of the mature cortex; consciousness is those various activities. One is conscious of those contents whose representations briefly monopolize certain cortical resources, in competition with many other representations. The losers – lacking “political clout” in this competition – quickly fade leaving few if any traces, and that’s the only difference between being a conscious content and being an unconscious content.

– Daniel Dennett, interview with Chris Floyd

Guy: Well, I think we’re finally ready for the discussion we’ve kept postponing – the one on consciousness I mean.

Thea: Tonight you’re going to tell me how a brain makes it?

Guy: I’ll tell you the gist of what is known. I think most of the pieces we needed are now in place.

Thea: Which pieces?

Guy: Well, we’ve come quite a distance by now. We’ve seen how patterns and relationships can organize themselves spontaneously, with no need for input from an “intelligent designer.” We’ve discussed a notion of suggestion that goes some distance toward bridging the conceptual gap between the mental and the physical. We’ve seen how swarm effects, stigmergy and networking can support the emergence of collective intelligence in a system of components possessing no intelligence of their own. We’ve seen how a “pandemonium” of specialized modules competing for influence in a global workspace might support at least the functions of adaptive intelligence and consciousness. We considered the phenomenon of language as a medium for rendering suggestions of all kinds into discreet, mutually intelligible categories. With these elements in place, I can at last try to make plausible for you that human consciousness and selfhood require no supernatural components, but can be understood in biological and natural terms.

Thea: I have to admit that doing so no longer seems as weird and impossible as it did at the beginning of these talks. I can see how much thought and work has gone into this program. At heart, though, I am still an unrepentant dualist. I don’t see how the subjective quality of human experience can be analyzed away, and I don’t believe it should be.

Guy: Let me say once more that none of this will deprive you of your precious subjectivity. What I’m presenting here is just a description, a way of looking at things, that does not alter the phenomenon itself. Your consciousness remains just what it was before we started these talks – or this research, for that matter. Understanding how consciousness and subjectivity are

¹ In this discussion of consciousness, I have relied heavily on Daniel Dennett’s paper *Are We Explaining Consciousness Yet?*, (August, 2000), available on the Web at <http://ase.tufts.edu/cogstud/papers/cognition.fn.htm>.

biologically constructed makes them more marvelous not less so.

Perhaps the most difficult idea in the world today is that our beliefs may or may not be intellectually honest, or consistent with one another, or usefully descriptive and/or predictive of experience, but they are never absolutely true in the classical, eye-of-God sense. Beliefs (including this one) form and sustain themselves through an eD process, much as life-forms do. For that reason, new modes of understanding never fully replace old ones that are still useful and convenient. The sun still rises and sets; and engineers still use Newtonian physics for most purposes. In a world as complex and various as ours has become, epistemological sanity is impossible until we grasp that divergent interpretations compete, but also complement each other. Their relationship is politicious, not simply adversarial. So you remain a conscious being, free to go on thinking of yourself as such. But you can also understand your consciousness in biological terms, when there is reason to do so.

Thea: Perhaps this new understanding will just confuse people yet further – more than they are already confused?

Guy: More than likely, I admit. The price of knowledge has always been a loss of innocence, with strange, new concepts, and difficult choices to make. Please recognize, though: You or anyone can forego knowledge as a personal choice. Willful ignorance is a feasible strategy and a highly popular one; and there may indeed be things that it is better not to know. That is why so much of our mental life is not conscious. But for humanity as a whole, the choice was made long ago – when Eve bit into that apple, in the poetic way of speaking. It's too late to ask that we not learn how the brain/mind system works. But you and I can end these talks right here, if you wish.

Thea: No. It's too late even for that. You've piqued my curiosity. I have to hear the end of your story. I want to finish this tasty apple.

functionalism and subjectivity

Guy: Very well. Then let me give you the conclusion first, and then try to answer your questions. Here we go:

We've seen that the firing patterns in a brain self-organize in response to the suggestions it receives from the external world, from its own body, and from re-suggestive structures previously built. These patterns ripple around the nervous system, where they reinforce and cancel each other, and compete for expression through the body's glandular and motor resources. In this ongoing competition of patterns, those of greatest "clout" prevail for a while until displaced by other patterns. In this ecoDarwinian process, successful patterns continue to reverberate, while losing patterns fade away. The patterns that reverberate widely and long within the brain are just those that we are conscious of. Without remainder, consciousness is that prevailing reverberation – in the brain's short term memory, language centres, pathways of motor coordination and affect, etc. What we experience as consciousness is the predominant influence that some neural patterns acquire in their competition with other patterns, as stabilized by the feedback loops of a sophisticated brain's self-monitoring.

Thea: That's not what consciousness is. That's a description of how it works, or of

what it does – not of the thing itself!

Guy: But that's just the point. Functionalists argue that consciousness is not some abstract property that a creature might or might not possess, but rather the capability to function in all the ways that we expect of ourselves and other conscious beings.² To act like a conscious being is actually to be one. Patterns of suggestion that reverberate sufficiently broadly and persistently in the neural circuits are experienced as "consciousness," which is simply the feeling of what it like to undergo that neural reverberation. Itself a part of that reverberation, of course.

Thea: Once again, you've ducked the question. Until you explain how that feeling arises, and why we feel those neural reverberations rather than merely have them, you haven't explained anything at all.

Guy: We feel what we ourselves are doing – what the tissues of our bodies are doing. What we experience as subjectivity is this process of self-monitoring. To possess functioning neural circuits that warn you that your body is being damaged, that cause you urgently to do something to alleviate what is causing the damage, that leave an aversive memory trace of the situation so it can be avoided in the future, is actually to feel pain. Likewise, to have neural circuits currently in the spasms of a sneeze or an orgasm or an epileptic fit is to feel the sneeze or the orgasm or the fit. When those reverberative processes are fully understood, there is nothing left to explain.

Thea: I think that is completely wrong. Stories have been written about the "undead" – about soulless "zombies" whose souls were somehow stolen from them. You can imagine a zombie or robot that does everything a man can do, that passes every possible test, but has no conscious feelings at all.

Guy: Can you really? Perhaps you only think you can. Imagine some horrible disease that turned its victims into zombies, but left them unchanged in every other respect. Who would know? Certainly not the zombies themselves. What I am saying is that life itself is such a "disease." The "zombies" you think you are imagining are just we ourselves.

Thea: If I think I can imagine something, then surely I have already done so. To imagine that I am imagining zombies who lack a faculty of consciousness that we ourselves possess is the same as to imagine them.

Guy: Not clear! It can be argued that only a conscious being could produce conversation and behavior indistinguishable from those of a real person. If engineers built a robot that could fool every one into thinking it was conscious, then consciousness would be a by-product of its functionality, as a logical requirement. If this is correct, then the zombie fantasy is incoherent.

Thea: I can't see why. You can program a computer to play chess at the grandmaster level. It will not know that it is playing, and will have no real understanding (no authentically cognized understanding) of the game. In

² For a discussion of functionalism, see <http://plato.stanford.edu/entries/functionalism/#1>

principle then, why could you not program a robot to produce human conversation and behavior? I can certainly imagine doing so, whether it is actually feasible or not. In fact, merely by talking about it, I have already done so. As have you.

Guy: Not really, because what we have imagined may be a logical contradiction – like the barber in Seville who shaves everyone who doesn’t shave himself. You can delude yourself that you are imagining such things – until you consider the full implications of what you are imagining. Then it turns out that you have not imagined them at all.

Thea: Where exactly is the contradiction in imagining a zombie?

Guy: Hugh Noble has argued that to be convincing, the zombie would have to have to believe in its own consciousness.³ Within its neural circuits, it would have to have convincing representations of a world and of itself, including such concepts as belief, knowledge, intention, sincerity and truth. For the zombie, truth will be a correspondence between its representation of the environment, and its re-presentation of its own beliefs. It will report to others that it is consciously experiencing its world (since if it did otherwise, it would not be accepted as conscious); and it will report to itself that it is truthful in this reporting (since the reporting would pass its own internal criteria for sincerity and truth). In deceiving others as to its consciousness, it would at the same time deceive itself. In doing so, it would be as conscious as you or I; and would be convinced of its own consciousness in the same way and for the same reasons that you and I are convinced.

Thea: Ouch! So, if I understand, you’re saying there’s really nobody here but us zombies, fooling ourselves that we conscious beings, and unaware that we are doing so.

Guy: Precisely – Except that in doing so, we are performing as conscious subjects, and by that very fact, indeed are conscious in the only sense that can coherently be attached to this word. Thus, we are not really fooling ourselves at all.

Thea: If it quacks like a duck, it’s a duck If it walks and talks like a conscious subject, it is one.

Guy: Right. But it’s more than just a question of labels. It seems that what we experience as consciousness is the “clout” of a given neural pattern in its competition with other patterns – its “fame in the brain” as Dennett puts it.⁴

Thea: I don’t see that connection. How are clout or fame analogous to consciousness?

³ See Noble’s article at www.tartanben.co.uk/mind/zombie.htm.

⁴ Dennett’s metaphor, making still more vivid the concept of “multiple drafts” competing for influence. See *Sweet Dreams* (2005) or Dennett’s essay *Are We Explaining Consciousness Yet?*

Guy: To explain his metaphor, Dennett offers the comparison of a man who has just published a first novel that excites terrific enthusiasm. As of Tuesday, his picture is about to appear on the cover of Time Magazine, and he himself is scheduled for Oprah's television show. On Wednesday morning, San Francisco is devastated by an earthquake, and the world's attention is diverted elsewhere. "All the dispositional properties normally sufficient for fame were in place," Dennett says, "but their normal effects didn't get triggered, so no fame resulted. The same . . . is true of consciousness. The idea of some information being conscious for a few milliseconds, with none of the normal aftermath, is as covertly incoherent as the idea of somebody being famous for a few minutes, with none of the normal aftermath. Jim was potentially famous but didn't quite achieve fame; and he certainly didn't have any other property (an eerie glow, an aura of charisma, a threefold increase in "animal magnetism" or whatever) that distinguished him from the equally anonymous people around him. Real fame is not the cause of all the normal aftermath; it is the normal aftermath."

Thea: Neat! I don't know that I can buy this story, but it certainly is clever.

Guy: If the earthquake had not come along to swamp it, Jim's novel would have been the talk of the nation. Everyone would have heard of it, gotten a copy, read it, talked about it, and been influenced by it in their various ways. Similarly, a successful neural pattern reverberates in the brain, and influences relevant specialist modules; to some extent, human brains can monitor this reverberation – can track which patterns are currently influential and take decisions based on this tracking. That self-monitoring is our consciousness. If we understand the mind as a suggestion ecology, then consciousness is a kind of user-friendly display of the current state of that internal eco-system. How exactly that display works, and what purposes it serves are questions we are just beginning to answer.

Thea: Still, like the little man upon the stair, the mind-body problem won't go away so easily. You still owe some account of feeling itself: what it is, where it comes from, how it is possible. Without a convincing answer to that question – and you still haven't given one – your whole program cannot answer our most urgent question.

Guy: In the year 2000, Nicholas Humphrey wrote an essay called How to Solve the Mind-Body Problem that seems to me fully worthy of its title. I'll try to summarize it for you, but the essay itself is brief, beautifully written, and readily available.⁵ I cannot do justice to it here, and would urge you to read it for yourself. In a nutshell, Humphrey's solution is based on a careful distinction between sensation and perception, and on an argument that raw sensation may be considered "physical" and "mental" at the same time – in the same manner I would say that suggestions are.

Thea: There! I'm suspicious right from the start. Why is this not just another reductionist gambit to reduce feeling to function and sweep the problem

⁵ On the Web at www.humphrey.org.uk/papers/2000MindBodyProblem.pdf, and also in Humphrey's book, *The Mind Made Flesh*, (2002).

under a rug?

Guy: I don't think that's a fair description of what he's doing. Rather, what Humphrey attempts, as I do, is a reduction of the conceptual distance between the "physical" and the "mental" by showing that the most primitive cell already has properties that partake of both, with no clear distinction between them. He begins by discussing alternative approaches to the known correlation between mind states and brain states: We can opt for some version of Cartesian dualism; we can take what Owen Flanagan called a "mysterian" stance and insist that the matter is beyond human comprehension; or finally, we can adjust our understandings of both the mental and physical, to remove the illusion that these are incommensurable. Only this last, as he points out, offers much chance to advance our understanding.

Thea: Suppose I accept that bringing the categories of mental and physical closer together is the way to go. What then?

Guy: Humphrey shows how sensation (carefully distinguished from perception) already has both "physical" and "mental" properties, and so might have been a basis for the evolution of a sentient brain. His central point is that raw sensation is already present in one-celled creatures, far too primitive to have "minds" in the common sense. Yet even to them, it must feel like something to be alive in a way that my laptop is not.

Thea: Go on, then. What is the difference between sensation and perception, and why is it important?

Guy: Sensation is direct news of what is happening to one's body. Perception is an inference – from sensation, of course – about what is happening out in the world. Where sensation is an utterly primitive feeling, accurate perception requires sophisticated processing and representation. But they are closely related: It is the grounding of perception in sensation that makes for what Damasio calls "core consciousness" – the feeling of what happens⁶ – and that I prefer to call "sentience."

Sensation is a direct suggestion to respond in some way to what is currently happening in, or at the surface of your body. By contrast, perception is a "best guess" at the event or thing that's causing what is happening to you, affording opportunity to choose or plan an appropriate response. For example, when you see a red rose, there is, first of all, a sensation of redness happening at the retina; and this occurs faster, and at a different neural location, than your perception of a rose. The latter requires comparison and assimilation of present experience – not only the sensation of redness, but all other current sensations as well – to previous constellations of experience. In humans, of course, categorization as "a rose" requires the brain's language centres as well. But all this represents many additional layers of processing on top of the primary layer of raw sensation: the feeling that something red is happening to me. Even the

⁶ cf. Damasio's distinction between Extended and Core Consciousness in *The Feeling of What Happens* (1999).

amoeba can feel that something acid or salty or edible is happening to it, and respond appropriately.

Thea: It's rather neat to distinguish between two logical types of news: of what is happening directly to me, and of what is happening out there in the world that might be causing happenings to me. But the amoeba's responsiveness is still just a matter of observable behavior. It's not clear that it feels anything at all.

Guy: For Humphrey, as for all the functionalists, the organism's feeling is an amplification and reverberation of raw sensation in its neural circuits (if it's complex enough to have circuits) but, it is first of all, a mere "wriggle" (Humphrey's word) in its very protoplasm. For one-celled organisms that's all there is: that "wriggle" at the boundary between the creature and its world. Later, something like a reflex arc develops from the site of local stimulation to a proto-brain and back again. Later still, the neural feedback loops combine, prolong and amplify the raw sensations, and provide the organism with "user-friendly" read-outs about the happenings to itself.

When further neural circuitry draws inferences about the world beyond the organism, complex perceptions become possible – grounded, and distinguished from dream and fantasy by their congruence with sensation. As all this occurs, sensation is no longer “raw,” but becomes more and more like what we willingly acknowledge as sentience – as the rich core consciousness that humans enjoy.

Thea: Is Humphrey’s account the accepted theory now?

Guy: More or less. Put it this way: Among neuro-psychologists and philosophers who think the problem of consciousness admits a naturalistic solution, there does seem to be emerging a consensus that what I am calling “sentience” is a kind of moment-by-moment feeling of being alive. In these circles, the unbridgeable gulf between “mind” and physical functioning now looks much narrower than it was even ten years ago. If and when a full account of sentience is given, it will probably go along Humphrey’s lines.

Thea: All right. I’m not sure I’m ready to concede this argument, but I can at least see where the functionalists are coming from. Suppose I grant your case for the sake of argument. You still have a lot of work to do.

Guy: Indeed we do. There’s much we still don’t know, and I doubt these arguments will convince anyone not already disposed to be convinced. Mysterians can insist forever that the subjectivity of consciousness remains to be explained even when all the functions of mind, including feeling itself, have been accounted for. But I think the question they wish to keep open is a purely metaphysical or religious one, beyond the competence of science. Whereof we can’t say anything publicly disconfirmable, we can go on talking as long as we like.

the functions of consciousness

Thea: From a purely functionalist perspective, we often speak of consciousness as if it were a kind of mental searchlight that can be turned on or off, or trained this way or that. But that can’t be right, can it? It sounds too simple, even to me.

Guy: It’s pretty clear by now that the searchlight analogy is hopelessly inadequate – not least because it makes it easy to fall into the error of thinking that we have the light while other creatures don’t. We now must say that infants and many animals are conscious in some senses, but not in others, and that the quality of consciousness can vary greatly from one occasion and person to another. The upshot, I think is that our word “consciousness” is too vague to be useful for any purpose beyond the everyday. At a minimum, we need a distinction between sentience (Damasio’s “core consciousness”), the mindfulness of an animal or a human baby, and what I think of as linguality – the symbolic, conceptual, narrative consciousness that evolved along with language, perhaps as a prerequisite for language. The upshot is that “consciousness,” as we begin to understand it, is not even a single function (still less a single substance or quality). “Fame in the brain” subserves a number of functions that cannot be handled as local, background processes but require the organism’s full resources.

Thea: What would those functions be? As you've pointed out,⁷ nothing like human consciousness is needed to get around in the world. The most complex sensory-motor coordination is possible without it – actually works better without it. In dance or martial arts, you train to move “instinctively” – with fluid, unconscious skill. In creative work of any kind, the role of consciousness is largely negative: to criticize, organize and edit what the unconscious brings forth.

So why do we have consciousness? Surely there must be more to it than the mere requirement to catch a meal or avoid becoming one.

Guy: That is a very good question. As we've seen, human consciousness and language processing are very costly in metabolic terms.⁸ As well, the sheer size of the infant's brain and skull is a substantial risk for human females and babies in childbirth; and our specialization in elaborate culture imposes an extraordinarily long period of helplessness on the babies, and of care-giving on their parents. In meditation, intelligent adults practice deliberately to extinguish the lingual, narrative consciousness temporarily, to abide in pure sentience for a short while. So what was it, precisely, that justified all that biological investment and risk? Unfortunately, without detailed knowledge of the selection pressures on our ancestors, we can only speculate.

Thea: Go ahead then. Please do so.

Guy: As we've seen, consciousness, language and tool-making seem to go together, without being different names for the same thing. So we can ask what it is that links them? The answer might be, a gift for abstraction – the ability to recognize critical features (differences that make a difference), and to generalize from these to imagined, hypothetical situations. The capability of a “mind's eye,” to play variations on the properties of things, imagining possibilities that never happened, and perhaps never will. The capability of a mind to change itself on the fly in response to a conceptualized past and future, and not just to a changing situation.

Thea: Would such a brain really be worth the energy cost and the risks that came with it?

Guy: For our primate ancestors, it obviously was, as our existence makes clear. Why especially for them and not for other creatures, we may never know.

But for those proto-humans, the capability to evaluate and respond to mere possibilities must have been worthwhile – to correct a blunder, avoid a trap, detect when a plan was going wrong and make appropriate changes. Instinct or well-trained habit (which we also use a lot) could see the creature through a familiar situation – even one requiring great skill and flexibility. But when it needed to plan for an unfamiliar situation, and/or to change its values and desires in real time to take account of fresh information, instinct

⁷ In Talk #1.

⁸ See Talk #8 and Wikipedia article on the brain at http://en.wikipedia.org/wiki/Human_brain.

and habit would not avail. At that point, even a dim imagination of possibilities must have made the difference between life and death, allowing the creature to change intentions on the fly – in the heat of its immediate situation, but in light of its past experience and its imagined future.

Thea: For that, it would need a brain capable of representing relevant memories and anticipations in the here-and-now.

Guy: Exactly. Gerald Edelman has written of consciousness as “remembered present.”⁹ There must be a strong connection between what we call “consciousness” and the physiological sub-systems of “working memory.”

Thea: Analogous to the distinction between CPU memory and mass storage in a computer.

Guy: That’s right.

Thea: I like that phrase: “remembered present.” It calls to mind the work of anamnesis – “unforgetting” – in therapy: making significant, but highly negative past experiences available to present consciousness. But then what? On your model, how would my clients be helped by this recovery of repressed memories?

Guy: Whatever else it does, consciousness seems to establish an over-all context for a brain’s suggestion processing. As we’ve already seen,¹⁰ that context has suggestive influence both on external events and in the brain itself, affording top-down coordination for what is otherwise a bottom-up self-organizing process. With repressed events recovered, that context would become more accurate, more honest. For better and for worse, I suppose.

Thea: That’s true. Anamnesis isn’t always helpful – or not in any simple way. It tends to raise new issues that a client may or may not be willing to work on.

Guy: Another feature of this model is to make clear why the kind of therapy you do must be primarily a talking cure, whatever other forms it takes. The key to our extraordinarily rich remembered present is the linguality I mentioned earlier – which has been compared to a serial information processor running on a massively parallel one.

Thea: Yes. It all fits very neatly. Except for one thing, perhaps: Is there anything left of the self, for those who accept your story?

the self

Guy: Your self is simply you – all of you, body and mind together, with the mind experiencing and attempting to manage its body’s activities and fate. In this respect nothing has changed. But now we see clearly that there need be no extra, metaphysical “self” inside you, controlling your mind and thinking

⁹ In *The Remembered Present*, Gerald Edelman, 1989.

¹⁰ In Talk #5.

your thoughts. Consciousness does not emanate from some “corner office” in the brain, where high-level reports are tabled and commands are issued. Rather, there are “modules,” “work groups” or “agents” doing specialized jobs, and patterns competing for influence over these modules. Among other things, there is competition to influence the stories you tell about yourself; and so, from this perspective, the self is a loosely stable ongoing story.

Thea: Building upon itself as experiences and memories accumulate over the course of a lifetime.

Guy: Just so.

Thea: Then what story will we tell ourselves now? Or, more precisely, how will the stories we tell about ourselves be altered when this novel understanding of consciousness is taken on board?

Guy: Too soon to tell, I’d say. We’ll have to live with this new psychology for awhile before its implications become clear.

Thea: Well, you’ve been living with it for awhile. What impact have these ideas had on you? That’s a fair question, isn’t it.

Guy: It’s a fair question. But I’d like to postpone discussion of it till almost the conclusion of these talks,¹¹ after we’ve talked about this new paradigm from a developmental and social perspective.

Thea: You might give me a hint. You obviously know where these talks are going. What’s next?

Guy: We haven’t talked yet about individual personality – how the re-suggestive structures that guide us as unique persons are themselves evolved and stabilized through a socializing process which is itself ecological in nature. That must be our next step. Only then will we gain a just sense of individual men and women as ecological patterns rooted in larger patterns – cultures and societies – which are themselves ecologies of mind.

Thea: Patterns rooted in larger patterns? You make us sound like plants.

Guy: Yes, that image has occurred to me. We could do worse than see ourselves as sentient, perambulating plants, each thriving as best it can in a definite historical soil, making what it can of the cultural nutrients it finds, and altering its cultural “soil” by having lived there. Of course, we are all plants of the same species. Beyond that, no two of us grow in exactly the same spot, make the same choices or develop in the same way.

Thea: Why do you call us plants? Why not animals, at least?

Guy: Because it may be good to emphasize that a human creature puts down roots, draws nourishment and forms itself always in some specific social

¹¹ To Talk #15.

and cultural habitat. Animals too have their individual territories, but that very word “animal” puts emphasis on the power to move about and choose. We tend to forget that for all our autonomy and versatility, a human organism is more “planted” than mobile with regard to its ambient culture; and that it suffers anything from culture shock to stunted development or total disorientation when “transplanted” to an alien cultural soil.

Thea: But . . . what kind of choices can a sentient plant make? What are the limits of its sentience? What kinds of thinking can it do?

Guy: All the thinking that we do. My point is that as a cognitive ecology unto itself, the human organism is an open system that draws upon and contributes to a native cultural environment, or “soil,” from which it is not easily displaced. It’s important to be clear that human consciousness is not a purely individual matter any more than just a matter of algorithmic computation. Human beings are massively inter-connected suggestion processors in dynamic equilibrium with each other and with their environments. The individual will reflect that environment in many ways and cannot be shifted without trauma and drastic re-organization – if it can be shifted viably at all, as is not always the case.

Thea: I have to tell you: this notion of a “conscious plant” sounds like an offensive oxymoron.

Guy: It shouldn’t. After all, it does no more than take seriously John Bowlby’s notion of an attachment system – extended from the infant’s primary caregivers to all the relationships and involvements, in childhood and later, that nourish its life. An individual cut from his roots is not much more viable than a flower in a vase. Apart from the broadly conceived attachment system to other systems that satisfy a person’s material and psychic needs, how long could that person live? How intelligible would he be?

Thea: But we are not plants, after all. We roam around in the world, today more than ever. You can buy a ticket, board a plane and be transported half way round the globe in less than a day.

Guy: Transported, but not transplanted. That’s just my point. Today, we need to understand ourselves as creatures whose powers of mobility greatly exceed our powers of adaptation – creatures that suffer damage and deprivation when shifted too drastically, or exposed too recklessly or forcibly to the re-suggestive structures of an alien culture. The cognitive materials that nourish one person may easily prove toxic for another.

So long as people were rooted in a single culture, regarded only their own tribe as real people, and felt free to slaughter the threatening stranger, they could not and did not need to think about cultural differences, and had no more use for the relativizing notion of culture than the fish needs a concept of water. So long as people could keep mostly to their own cultural kind, meeting sometimes with strangers, but holding alien influences at a safe distance, they could think of themselves as autonomous atoms in a “civil” marketplace. Today, however, when all peoples and cultures are exposed and over-exposed to one another whether they (and their authorities) like it or not, the concept of a civil public space has become a

battle ground whose very definition is up for grabs. Under these conditions, we need to understand that no person reaches adulthood without taking on a lot of cultural “earth” that clings inextricably to his roots, wherever life takes him. We talk about globalization and the rapid pace of change, but a large part of what this means in practice is that many people’s cultural niches are being stressed or obliterated, with consequences that fill the newspapers.

Thea: No argument from a therapist that our sense of self these days is much shakier than most people are willing to recognize. My fear is that this ecoDarwinian paradigm of yours will make it shakier still.

Perhaps this need to understand and explain everything is itself a kind of pathology. Perhaps the mystery of life is better taken on faith. Perhaps it’s the examined life – at least, the overly examined one – that’s not worth living! Perhaps we need a measure of what Keats called “negative capability” to be sane and happy in this world.

Guy: That may be so. For most people, lacking time or inclination to look deeply into things, it may well be so. But there’s no way to unlearn what we now know. There’s no way to stop learning more as we try to cope with the situation that now exists.

Thea: With those ideas of consciousness and cultural rootedness, there’s not much left of “free will,” is there?

Guy: As we’ve discussed at several points already, human beings have rich autonomy, but I don’t think we have “free will” in anything like the classical sense. There’s some evidence¹² that the unconscious mind makes its decision and starts an action going before consciousness has the chance to intervene. Apart from its context setting function, the role of consciousness may be more like “free won’t” than “free will,” blocking impulses from the subconscious, or letting them ride.

Thea: A kind of veto power, in other words?

Guy: Maybe. We’re at the frontier now. We don’t yet fully understand the role of consciousness within the mind as a whole.

¹² From the Libet experiments and follow-up. See www.consciousentities.com/libet.htm.