

## Chapter 4 (final)

## CONSCIOUSNESS AND HUMAN INTENTIONALITY

The nature of consciousness must be the foundation of human understanding. The subject has occupied the thoughts of some of the most brilliant minds in philosophy, cognitive science, and psychology; and despite many claims of consciousness “explained” it is still far from explained. John Searle states the issue as follows “ ‘The problem of consciousness’ is the problem of explaining exactly how neurobiological processes in the brain cause our subjective states of awareness or sentience; how exactly these states are realized in the brain structures; and how exactly consciousness functions in the overall economy of the brain and therefore how it functions in our life generally.”<sup>1</sup> Controversy has raged, and still rages over the issues in the first part of that description, but it is the final phrase—how it functions in our life generally—that is my focus and that strangely appears to be relatively neglected as compared to the other issues. But it is at the very heart of all the issues involving human intentionality. To quote Searle once more, “Darwin’s greatest achievement was to show that the appearance of purpose,

<sup>1</sup> The Mystery of Consciousness, 1997, New York: New York Review Book, p. 192

planning, teleology, and intentionality in the origin and development of human and animal species was entirely an illusion. The appearance could be explained by evolutionary processes that contained no such purposes at all. But the spread of ideas through imitation required the whole apparatus of human consciousness and intentionality.” (p.105) Here I make no attempt at overall explanation but rather build on what we do know about consciousness to provide a foundation for understanding the process of change. Specifically we need to account for the extraordinary variety of human actions ranging from the creativity of a Mozart, the genius of an Einstein, to the savagery of Attila the Hun (read Hitler, Stalin, or the Khymar Rouge), the religious fanaticism of Savonarola (an endless litany is available here), to the intolerance of dissent that has often characterized Catholics, Protestants, and Moslems both in the past and in the modern world. They are the complex product of the way consciousness interacts with the variety of human experiences to produce not only individuals with specific characteristics and beliefs but also leads to broad patterns of societal behavior which has shaped and continues to shape economic change.

Consciousness is frequently divided into two levels, primary or core consciousness and higher order or extended consciousness.<sup>2</sup> The former is the state of being mentally aware of things in the world—of having mental images in the present. It is a characteristic of non-linguistic and non-semantic animals. Higher order or extended consciousness involves the recognition by a thinking subject of his or her actions or affections. It embodies a model of the personal, and of the past and future as well as the

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<sup>2</sup> Much of this description and subsequent summary of the nature of consciousness is drawn from Gerald Edelman, (1992), Bright Air, Brilliant Fire and Antonio Damasio, (date) The Feeling of What Happens: Body and Emotions in the Making of Consciousness.

present. It exhibits direct awareness. We are conscious of being conscious. There are three aspects to a theory of consciousness:<sup>3</sup>

1. the physical assumption---the laws of physics are not violated. We do not need to evoke spirits or ghosts (although as we shall see humans do evoke spirits and ghosts in their explanation of phenomena).
2. The evolutionary assumption---consciousness arose as a phenotypic property at some point in the evolution of the species. The acquisition of consciousness either conferred evolutionary fitness directly on the individuals having it, or provided the basis for other traits that enhanced fitness.
3. The Qualia (and most controversial assumption)---Qualia constitutes the collection of personal or subjective experiences, feelings, and sensations that accompany awareness, and are unique to each individual.

Two features of consciousness deserve special emphasis; 1. consciousness and emotions are not separable (Damasio, p. 16), and “ Consciousness and conscience are in fact distinguishable: consciousness pertains to the knowing of any object or action attributed to a self, while conscience pertains to the good or evil to be found in actions or objects” (Damasio, p. 27)

While some primates exhibit aspects of higher order consciousness, its development in human beings is the very foundation of human behavior and is intimately connected with the development of the human mind described in chapter 3 built on Merlin Donald’s work. That is, successive stages of human culture are grafted on to the genetic architecture to produce the complex structure we call consciousness. In particular the development of the mythic stage characterized by a shared narrative tradition built on

<sup>3</sup> See in particular Edelman, Part 111 for an elaboration of these issues.

language and the final theoretic stage of symbolically literate societies has moved human consciousness far beyond that of other primates. “Conscious human experience has given rise to culture, and culture to history. History is not simply a chronicle but an interpretation, encompassing suspected causes and values. Science has emerged within history, and it attempts to describe with considerably more certainty, the boundaries of the world—its constraints and its physical laws. But these laws cannot replace history or the actual course of individual lives.” (Edelman, p.162) We may never completely untangle the complex interconnections between the genetic and cultural attributes, but combining the two enables us to make sense of the human condition over time even if some of the combinations are arbitrary assertions at this point. With that cautionary caveat let us see how far we can go.

Our story is one of the expansion of consciousness from its core beginnings common to other animals. There are two key features to this expansion that are central to this study. 1) Accounting for the imaginative development of explanations for the wider horizons of extended awareness that are embodied in superstitions, myths, dogmas, and religions, and 2) “Consciousness shows intentionality; it is of or about things or events. It is also to some extent bound up with volition.” (Edelman p. 112) That intentionality is expressed in the development of increasingly complex institutions and artifacts to regulate an ever expanding structure. Let us look at each in turn.

Extended awareness forces humans to confront and develop explanations for observable features of the environment not directly amenable to explanations that have evolved with learning about the immediate physical environment. “Higher order consciousness leads to a rich, cognitive, affective, and imaginative domain—feelings

(qualia), thought, emotions, self-awareness, will, and imagination. It can construct artificial mental objects such as fantasies.” (Edelman, p. 198) Consciousness underlies non-rational and supernatural beliefs, which are a universal attribute of all human societies and would therefore appear to reflect innate qualities of the mind. Pascal Boyer in Religion Explained (2001) maintains that the social inference system in the mind evolved to handle innate notions of morality and situations of misfortune. He describes some fundamental features common to all “supernatural explanations” as follows: “Our evolution as a species of cooperators is sufficient to explain the actual psychology of moral reasoning, the way children and adults represent moral dimensions of action. But then this requires no special concept of religious agent, no special code, no model to follow. However once you have concepts of supernatural agents with strategic information, these are made more salient and relevant by the fact that you can easily insert them in moral reasoning that would be there in any case. To some extent religious concepts are parasitic upon moral intuitions.”<sup>4</sup> Clearly there is a genetic origin to these explanations but to take us further it is necessary to explore the cultural conditioning that turns such explanations into driving forces in human development. It is one thing to have supernatural explanations; it is something else to insist on conformity in beliefs about that supernatural explanation. That takes us to the second feature.

Increasing self-awareness has led humans to ever more elaborate efforts to structure their environment as the development of language and then symbolic storage systems made possible far more complex forms of human organization. Edelman summarizes the issue as follows: “Meaning takes shape in terms of concepts that depend on categorizations based on value. It grows with the history of remembered body

<sup>4</sup> Pascal Boyer, Religion Explained, (2001), Basic Books, p. 191

sensations and mental images. The mixture of events is individual and, in large measure, unpredictable. When in society, linguistic and semantic capabilities arise and sentences involving metaphor are linked to thought, the capability to create new models of the world grows at an explosive rate. But one must remember that, because of its linkage to value and the concept of self, this system of meaning is almost never free of affect; it is charged with emotions.” (p.170)The widely varied experiences of humans in different settings have produced immensely varied cultures with different combinations of supernatural beliefs and institutions, but the important point is that it is the complex interplay between these genetic predispositions and varied experiences of humans in different settings that gives us a starting point in understanding the process of societal change.

How do we account for cultural variation? Some evolutionary theorists have created a parallel category to genes to explain cultural evolution. They use the term memes to describe the intergenerational transfer of cultural attributes.<sup>5</sup> But such an extension is clearly misdirected. Cultural traits do not possess attributes parallel to those of genes and indeed the growing literature of the new institutional economics makes abundantly clear that institutions must be explained in terms of the intentionality of humans. It is particularly the development of informal norms that have salience for incorporating the blend of moral inference of genetic origin with the intentional aims of humans, which together provide the backbone of what we should mean by the term culture.

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<sup>5</sup> This term was popularized by Richard Dawkins, CITE and is featured in D. Dennett’s Consciousness Explained, Little Brown, 1991. Searle devotes a chapter (chapter 5) to a biting criticism of Dennett in The Mystery of Consciousness.

The powerful influence of myths, superstitions, and religions in shaping early societies came from their role in establishing order (the subject of chapter 8) and conformity. Ideological conformity to this day is a major force in reducing the costs of maintaining order, but it comes with the additional societal costs of preventing institutional change, punishing deviants and serving as the source of endless human conflict with the clash of competing religions. Thus the expansion of consciousness is not only the source of the wonders of human creativity and the rich civilizations that humans have created but also a source of intolerance, prejudice, and human conflict. It could hardly be otherwise given its central role in human intentionality.

Conformity has still another cost in a world of uncertainty. In the long run it produces stagnation and decay as humans confront ever new challenges in a non ergodic world that requires innovative institutional creation because no one can know the right path to survival. Therefore institutional diversity that allows for a range of choices is a superior survival trait as Hayek has reminded us. Religious diversity such as Luther and Calvin produced has long been celebrated as providing just such a stimulus, as Weber's famous argument reminds us. But a more fundamental source of creativity has been the evolution of institutional diversity in general, of which Protestantism was one illustration and symptomatic of the overall diversity in thinking associated with the Renaissance. Political fragmentation in western Europe played just such a role in creating diverse and competing institutional settings for diverse beliefs and hence economic institutions which were critical in the relative rise of Europe as well as critical to the growth of impersonal exchange which underlies modern economic growth. All this is the subject of chapter 10 below.

If uncertainty is a constant in explaining institutional change what difference does it make when the uncertainty changes from that associated with the physical environment to that associated with the human environment? All three of the sources of economic change (demographic, stock of knowledge, and institutions) have been fundamentally altered. Not only has population grown at an unprecedented rate but the increase in human capital has been equally unprecedented. The growth of population led to a world of ubiquitous externalities as humans were forced into ever closer proximity to each other, but in the additional context of the revolutionary changes in technology has produced new social problems to be solved. The driving force in the development of the human environment has been the growth in the stock of knowledge which has revolutionized production technologies and provided the potential of a world of plenty. Equally it has created weapons of mass destruction capable of destroying us. The resultant institutional development has created more and more complex structures designed to deal with the consequent novel problems facing societies. Institutions as the incentive structure of societies have produced diverse inducements to invest in, expand, and apply this growing knowledge to solve problems of human scarcity. The implications for consciousness have been that such inducements have expanded the human creative potential and in combination with diverse cultures produced widely varied responses to the novel problems confronting humans as a result of these changes. But the responses have not always been creative and productive. Sometimes the way experiences have interacted with consciousness has led to institutions that resulted in stagnation with resultant human frustration in the context of more dynamic societies. In fact it is problems posed by the transition of a belief system from one constructed to deal

with the physical environment to one constructed to confront the complex problems of the human environment that is at the core of the problems of economic development.

There is nothing automatic about such a change being successful.

Supernatural beliefs in general and organized religions in particular continue to play a critical role, but the change in the cultural context alters the nature of that role. The conflict between religious dogma and the growing knowledge of physical scientists from Copernicus and Galileo to Darwin has produced tensions in the western world. In the rest of the world the widening gap in economic well-being created by differential incentives to invest and apply knowledge to solve economic problems has produced new fundamental conflicts. The failure of the Muslim world to continue its dynamic expansion after the twelfth century evidently reflected the rigidities that evolved in that culture in contrast to the dynamic changes in western Europe.<sup>6</sup> And in the modern world Muslim conformity in the context of an ever widening gap between the Muslim and western world has at times hardened into fanaticism. And no one needs to be reminded in the present world about the implications of religious fanaticism for conflict.

But if the driving force in the modern world is the growth in the stock of knowledge, we are left with the puzzle of the differential in its application leading to the ever widening gap between rich and poor countries—a difference which can only partially be explained by religious conformity. This chapter opened with a quote from John Searle to the effect that the controversies that rage about consciousness have focused on the body mind connection to the relative neglect of its implications for

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<sup>6</sup> See Timur Kuran, "Islam and Underdevelopment: An Old Puzzle Revisited", *JITE*, March 1997 and his more recent "The Islamic Commercial Crisis: Institutional Roots of Economic Underdevelopment in the Middle East" *Journal of Economic History*, June 2003

shaping our lives. We seek to account for that complex mix of beliefs and institutions that evolve over time to determine the human condition.

“ The marvelous achievements that come from the human mind require consciousness in the same fundamental way that they require life, and that life requires digestion and a balanced internal chemical milieu. But none of these marvelous achievements is directly caused by consciousness. They are instead a direct consequence of a nervous system which, being capable of consciousness, is also equipped with a vast memory, with the powerful ability to categorize items in memory, with the novel ability to code the entire spectrum of knowledge in language form, and with an enhanced ability to hold knowledge in mental display and manipulate it intelligently. Each of these abilities, in turn, can be traced to myriad mental and neural components. ( Damasio, p.310-11)

It is a combination of “those states of sentience and awareness” that characterize consciousness and the evolving institutional framework that is the source of that human condition. The diversity that we observe in the human condition over time, from the creative, imaginative developments of the Renaissance to the endless fanaticism, savagery, and warfare that is equally a part of our story, has at its source the way the mind acts on and reacts to the fundamental problems of a belief system attempting to make the transition from one constructed to dealing with the physical environment to one capable of dealing with the human environment. We need to account for not only the macro issues of the fundamental sources of order and disorder in economies over time—the subject of chapter 8-- but also specific explanations of the diverse success of economies in dealing with novel problems that have confronted and continue to confront

societies in a non ergodic world. We can make some headway by reviewing empirical evidence on the nature of learning and human interaction in absorbing that learning in various social settings.

The place to begin such an explanation is with the genetic architecture that evolved in the several million years that humans evolved as hunters and gatherers. Innate cooperative behavior among small groups does appear to be a genetic trait and in the previous chapter I described some work in experimental economics done by Betsy Hoffman, Kevin McCabe, and Vernon Smith that provides empirical support for such a conclusion. But how far does such cooperation go beyond small groups and how does it modify the basic self-interest model underlying economic theory? Recent and current empirical research is beginning to give us some answers. Perhaps the most ambitious research undertaking arose in response to criticisms of the cultural uniformity of college students as the source of experimental studies. Accordingly a number of researchers (mostly anthropologists) who together had extensive experience in a variety of cultural settings each undertook an in depth set of studies in the culture with which he or she was familiar using a common framework and research techniques. It is worth summarizing their results verbatim: “ We found, first, that the canonical selfishness based model failed in all the societies studied. Second, there is more behavioral variability than had been found in previous research. Third, group level differences in economic organization and the structure of social interactions explained a substantial portion of the behavioral variation across societies: the higher level the degree of market integration and the higher the payoffs to cooperation in everyday life, the greater the level of prosociability expressed in experimental games. Fourth, individual level economic and demographic

variables do not explain game behavior, either within or across groups. Fifth, in many cases experimental play appears to reflect the common interactional patterns of everyday life.”<sup>7</sup> They conclude: “Our interpretation of these cases reflects a unified underlying causal model in which preferences and beliefs are endogenous. According to our view, behavior in a given situation are the result of individuals’ beliefs about the relationship between actions and consequences and the preferences with which they evaluate these consequences. The structure of everyday social interactions affects both beliefs and preferences. The reason is that whom we meet when we do particular tasks with particular payoffs influences both the kind of information we deploy when we update our beliefs and the experiences that lead us to reaffirm or revise our preferences. The updating of beliefs and preferences may respond to the relative payoffs of those holding distinct beliefs and preferences--the successful may be copied. Or it may be sensitive to the frequency with which one imitates individuals holding distinct beliefs and preferences—learning may be conformist. In combination, such forms of social learning, as well as individual learning, will produce groups with different combinations of beliefs and preferences (which can occur even in the absence of structured social interaction)”.<sup>8</sup>

The conclusion of the empirical researchers described above is consistent with the arguments about learning advanced in the previous chapter. It was argued that the learning process appears to be a function of 1) the way in which a given belief system filters the information derived from experiences; and 2) the different experiences confronting individuals and societies at different times.

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<sup>7</sup> “ ‘Economic Man’ in Cross-cultural Perspective: Behavioral Experiments in 15 Small-scale Societies”, Joseph Heinrich et al. GET FINAL PUBLISHED CITE

<sup>8</sup> Ibid pp39-40

The social setting of the anthropologists' empirical research was a world of uncertainty geared to the physical environment. Thus if we are to account for the wide and still widening gap between rich and poor countries we must explore the different experiences of societies through time and the implications of these different experiences for the development of different belief systems that produced widely different abilities to successfully confront the problems of the human environment. The research cited above, valuable as it is, only gives us a snapshot insight into human behavior at particular moments of time when what we need is an in depth understanding of the incremental process of change through time. The consciousness of humans and the consequent intentionality that they displayed in the context of the stresses of humans evolving towards more complex, interdependent cultures has produced the diverse institutional structures that in turn account for the varied differential performance characteristics of societies.