PART I

MENTAL CONTENT

CHAPTER 2

INTENTIONAL STANCE THEORY

2.1 Introduction

This chapter briefly introduces Dennett's thought on content. It begins with Dennett's resolute allegiance to artificial intelligence and third person oriented approaches to the mind. Neo-Darwinist evolutionary paradigm that strongly colored Dennett's writing is then discussed. We then turn to Dennett's postulation of intentional stance and derived intentionality and their corresponding justification therein. Finally, it ends with a rather elaborate summary on the crux of Dennett's philosophy of content.

2.2 The Founding Framework of Dennett's Thought

Dennett is one important contemporary philosopher of mind, who ingeniously weaves together some central postwar developments in novel ways, making and drawing out some significant ramifications in the field resulting in the birth of intentional system theory, which has since been vigorously debated, hence securing influence in the field. Dennett maintains an antirealist position on content (intentionality), whilst arguing for the reality of consciousness. Besides

arguing for the *as if* nature of intentionality, Dennett also notoriously claims to quine qualia. Qualia is the philosopher's term denoting phenomenal or qualitative aspects of experience. He denies ontological significance to any of these properties.[1]

Dennett is one of the most artificial intelligence (hereafter AI) minded philosopher (Dennett 1995b: 61-62), arguably by far one of the most articulate and sophisticated apologist of AI's campaign in understanding and explaining mind. His leaning towards AI is clear:

> it is probably because philosophers have been too philosophical – too abstract, idealized and unconstrained by empirically plausible mechanistic assumptions – that they have failed for so long to make much sense of the mind. AI has not yet solved any of our ancient riddles about the mind, but it has provided us with new ways of disciplining and extending philosophical imagination that we have only begun to exploit (Dennett 1988a: 294).

Dennett's strand of philosophy is cast in the tradition of Quine, Wittgenstein, and Ryle (BC 356, 365-366; CE 462-463, Dahlbom 1993a: 4). By and large, his work can be perceived as systematic intellectual undertaking to naturalize mind into the canon of physical sciences. Subjective first person access is invalidated, to be replaced by objective third person principles of science. Philosophy is seen, not as mentioned above but continuous with the sciences.

> One may accept the Brentano thesis [that you cannot explain the meaning of intentional idiom by means of any nonintentional vocabulary] either as showing the indispensability of intentional idiom and the importance of an autonomous science of intention, or as showing the baselessness of intentional idiom and the emptiness of a science of intention. My attitude unlike Brentano is the second. Not that I would forswear daily use of intentional idioms, or maintain that they are practically dispensable (Quine 1960: 221; cf. Lyons 1995: 14).

[1] Issues on qualia would be explored in more detail in Chapter 7 and Chapter 8.

Given the way Dennett's thought evolves, the above passage might just easily have become part of his writing. For Dennett too believes that talks of mental acts not susceptible to naturalization is guilty of committing metaphysical sin. Entities that cannot be scientifically verified do not exist.[2] His thinking along this line is clear.

> So one can only ascribe content to a neural event, state or structure when it is a link in a demonstrably appropriate chain by the afferent and the efferent. The content one *ascribes* to an event, state or structure is not then an extra feature that one discovers in it, a feature which, along with its other, extensionally characterized features, allows one to make predictions. Rather the relation between intentional descriptions of events, states or structures and extensional descriptions of them is one of further interpretation. If we relegate vitalist and interactionist hypotheses to the limbo of past, desperate resorts, and proceed on the assumptions that human and animal behavior control systems are only very complicated denizens of the physical universe, it follows that the events within them, characterized extensionally in the terms of physics or physiology, should be susceptible to explanation and prediction without any recourse to content, meaning or intentionality....(Dennett 1969: 78, emphasis added).

This is taken from Dennett's doctorate thesis published in the 1960s. His views have not changed much since, as he reiterates in an interview twenty-five years later:

> Question: Sure you could ask the robot questions, observe its behavior, and ascribe it intentionality, as you wrote in your paper. But to ascribe intentionality does not mean that it really has intentionality?
>
> Answer: That is an interesting claim. I have argued, of course, that that, in the limit is all there is. There is not any original, intrinsic intentionality. The intentionality that gets *ascribed* to complex intentional systems is all there is. It is an illusion that there is something more intrinsic or real. This is not a radical thesis, but a very straightforward implication of standard biological thinking. We are mechanisms, mechanism with very elaborate purposes...(Dennett 1995b: 66, emphasis added).

[2] "Dennett's behaviorism and functionalism are related to verificationism, the idea that where there can be no evidence to decide an issue, there is no issue. The notion of evidence here is borrowed from science: whatever natural scientists in their practise will count as evidence, Dennett will accept. On Dennett's understanding of science, this means that by evidence we mean intersubjectively accessible physical phenomena...Thus, Dennett's verificationism is a brand of scientism. When you practise this version of verificationism in psychology, as it is being practiced in the mainstream of twentieth-century experimental psychology, including cognitive science, you are a behaviorist. But behaviorism is also the more particular application of verificationism to psychological language, what used to be called 'logical behaviorism'....Dennett is a logical behaviorist..... along with Wittgenstein, Ryle, and Quine..." (Dahlbom 1993a: 5).

Evidently, his radical views on phenomenal properties and content stem largely from his strong conviction in the third person stance. As he eloquently argues,

> [s]ome people still may feel the tug of fear at the prospect of taking this third person perspective on the mind. Some may fear that we will somehow rob each other of what is special and wonderful about us. Some people may thus feel a strong desire to build a moat of some kind around some special part of them – their mind – and keep it forever inviolate and untouchable by science. All I can say to help to assuage that fear is that if you look at the previous great leaps forward in science you will see that far from diminishing our appreciation of the subtlety and wonder and complexity of the phenomena, they have increased it. Our knowledge of the genetic code and its operation, for instance, provides a far more spectacular vista on the nature of procreation than any of the undetailed vitalistic theories that preceded it. I for one have no doubt that if and when we ever do get a good third person theory of the mind, it will only confirm our most optimistic sense of how extraordinarily complex and beautiful a human mind is (Dennett 1984f: 273).

> [S]ince you can never 'see directly' into people's mind, but have to take their word for it, any such facts as there are about mental events are not among the data of science, since they can never be properly verified by objective methods…The challenge is to construct a theory of mental events (state, process) using the data that scientific method permits. Such a theory will have to be constructed from the third person point of view since all science is constructed from that perspective (CE 70, 71).

One could empathize with Dennett's stalwart faith in science and third-person view of things (BC 356), without necessarily agreeing with the conclusion drawn therein. In other words, anticipating commentaries in later chapters, while one may concur that a third-person epistemic standpoint is important in studying natural phenomena, this ought not to preclude *in toto* the warrant of first-person individuation of things. Dennett's radical thesis appears to have purchased its unshaken conviction in science (especially his allegiance to the ideas of strong AI),[3] at the price of bringing down the ordinarily accepted notions of content and consciousness. Though first-person standpoint may occasionally result in errors, it does not necessarily justify renouncing it completely. First and third person

[3] In fact, to Dennett, strong AI is the direct implication of science, "strong AI is a straightforward implication of orthodoxy. We cannot simply add a new transept to the Cathedral, enshrining an

accounts are arguably tools, no tools are in themselves perfect. (This would be elaborated more fully in Chapter 9.)

2.3 The Legacy of Darwinian Influence

Apart from the brief methodological overview above,[4] Darwinian thinking is another crucial standpoint that most significantly impact Dennett's thoughts. One cannot grapple with his position without this key with which the major part of his philosophy is constructed and anchored. We cannot hope, for instance, to fully appreciate in particular his inclinations towards strong AI approach to the mind,[5] his firm belief that a mechanical Joycean machine is sufficient to having mind and so on, without grasping the way his philosophy is entrenched in the wider context of neo-Darwinian evolutionary paradigm.[6] Hence, the following briefly outline his allegiance to Darwinian thinking, before the centerpiece of his thought on mind is discussed.

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alternative theory of the mind; if strong AI is mistaken, the whole structure of science must be rebuilt from the ground up" (Dennett 1989c: 1056).

[4] For a general overview of this, see also Symons (2002: 14-26) as well as Brook and Ross (2002a: 11-35).

[5] For instance, he says that "the field of Artificial Intelligence is a quite direct descendant of Darwin's idea" (DDI 27). On ways in which AI could contribute to our understanding of consciousness, Dennett writes that "cognitive neuroscientists could take a hint from AI. The people in AI have almost never worried about consciousness as such, since it seemed obvious to them that if and when you ever got a system – an embodied robot, in the triumphal case – that actually could do all the things a person can do (it can reflect on its reflection about its recollections of its recollections of its anticipations of its decisions and so forth), the residual questions about consciousness would have fairly obvious answers. I have always thought they were right" (1995e: 410).

[6] "The Darwinian explanation of evolution views the entire range of living things as the accumulated result of the action of natural selection upon chance variations arising in organisms. In the modern neo-Darwinian version, natural selection simply culls the favorable variations among phenotypes produced by copying errors in the DNA code. Yet, even though selection is a completely mindless material process, it is the origin and explanation of the marvels of design

Dennett regards Darwinian theory as the single most important scientific theory, explicating and unifying the physical and biological world without question begging.[7] This is a natural outgrowth of Dennett's deep-rooted belief that all life on earth is the outcome of evolution, created by mindless and blind algorithmic process of natural selection. Hence, influence of evolutionary thinking can be seen interspersed through his works, shaping and molding his thoughts and needless to say the major corpus of his works.

According to Dennett, Darwin overturns the cosmic pyramid of traditional western thinking that sees mind as the overriding primal principle (DDI 64-68). On this mind-as-first-cause thesis, there is no design without mind. One does not build a watch by throwing some pieces of metal and springs together. Design presupposes a mind - a purposeful architect, in other words. Darwin's revolution lies in his idea that both design and mind can emerge through essentially purposeless, mechanical and algorithmic process of natural selection. For a staunch neo-Darwinist like Dennett, this is unquestionably *the* best unsurpassed account of life phenomena we have to date, for it triumphs without resorting to illegitimate ways to do the lifting in design space, i.e., Darwin shows how non-

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evident in the living world and renders unnecessary any appeal to a transcendent 'Designer' (Gallagher 1996: 487).

[7] "Let me lay my cards on the table. If I were to give an award for the single best idea anyone has ever had, I'd give it to Darwin, ahead of Newton and Einstein and everyone else. In a single stroke, the idea of evolution by natural selection unifies the realm of life, meaning, and purpose with the realm of space and time, cause and effect, mechanism and physical law....My admiration for Darwin's magnificent idea is unbounded..." (DDI 21).

intelligent artificer could do all the lifting by "cranes" without invoking any "miraculous lifter" (DDI 74-75).

His deep affinity to evolutionary thinking helps throw light on his general abhorrence of attributing fix - innate unchanging - essence to the mind. Both mutation and adaptation central to evolutionary paradigm hinge mainly on change (and to a large extent random variations) to account for the way mind evolves from non-mind, intelligence from non-intelligence and design from non-design (DDI 61-83). As Dennett points out, "intentionality does not come from on high; it percolates up from below, from the initially mindless and pointless algorithmic process that gradually acquire meaning and intelligence as they develop" (DDI 205).[8] If this is so, mind is not some intrinsic Unmoved Movers (uncaused first principle). For they, like other malleable artifacts of nature, are created by secondary tinkering processes of evolution (DDI 149-181, 205).[9]

Needless to say, his deep-rooted conviction in evolutionary thinking gives rise to repercussions crucial to the understanding of his approach to mind analysis at large. The key lies in his belief that "biology is engineering" (DDI 187-228; BC 360, Dennett 1990j: 22). This marriage of both biology and engineering is what informs (or explains) Dennett's choice for AI (or mechanical approach) to the

[8] "What, then, is a mind? The Darwinian answer is straightforward. A mind is a crane, made of cranes, made of cranes, a mechanism of not quite unimaginable complexity that can clamber through Design Space at giddy – but not miraculously giddy – pace, thanks to all the earlier R and D, from all sources, that it exploits" (Dennett 2002e: 2). [sic]

[9] "I have argued....that clinging to the doctrine of *original* intentionality is the primary source of perplexity in contemporary Anglo-American philosophy of mind..." (Dennett and Haugeland 1987: 9, emphasis added).

study of mind.[10] But what does an engineering-cum-biological approach entail? Taking engine as a case in point, to build engines, engineers have to engage in careful planning and testing - deciding how it is to operate, whether it works on steam, electricity or fuel - and subsequently to come up with designs describing ways the engine is to be constructed and so on. However, what engineers accomplish through foresighted planning, evolution accomplishes through algorithmic blind natural selection processes, for "the process of evolution by natural selection is like a clever engineer" (DDI 213). Dennett takes this to be one of the most powerful upshots of Darwinian thinking.[11]

In view of the above, there is nothing mysterious about the intrinsic uniqueness of mental properties. They are essentially the product of identical biological engineering processes responsible in producing other body parts. It follows thereby that the supposed miraculous properties of mind can thus be similarly grounded. Says Dennett,

> biology is not just engineering; it is engineering. It is the study of functional mechanisms, their design, construction, and operation. From this vantage point, we can explain the gradual birth of function, and the concomitant birth of meaning or intentionality. Achievements that at first seem either literally miraculous (e.g., the creation of recipe-readers where none were before) or at least intrinsically Mind-dependent (learning to play winning checkers) can be broken down into the ever smaller achievements of ever smaller and stupider mechanisms (DDI 228; see also p.177).

As such, there is no more intrinsic (original) intentionality to mind than there is to, say, a computer. Hence, distinction between biological and artificial

[10] We would have the chance to look at other vital imports concerning his views on content and meaning later, as the thesis unfolds.

[11] "I want to make out the case that the engineering perspective on biology is not merely occasionally useful, not merely a valuable option, but the obligatory organizer of all Darwinian thinking, and the primary source of its power" (DDI 187; BC 69).

intelligence becomes obscured as both are the outcome of tinkering processes of research and development.

> The work done by natural selection is R & D, so biology is fundamentally akin to engineering, a conclusion that has been deeply resisted out of misplaced fear for what it might imply. In fact, it sheds light on some of our deepest puzzles. Once we adopt the engineering perspective, the central biological concept of function and the central philosophical concept of meaning can be explained and united. Since our capacity to respond to and create meaning – our intelligence – is grounded in our status as advanced products of Darwinian processes, the distinction between real and artificial intelligence collapses (DDI 185).

This throws important light on his unrelenting insistence on the virtues of AI approach to the understanding of mind. For if mind and intelligence could emerge incrementally out of mechanical trial and error (engineering) processes of evolution, there is no good reason why AI, following similar mechanical principles could not succeed! For, as the above makes clear, to Dennett there is no real distinction between artificial and genuine intelligence, as there is any between real and artificial meaning.[12] To postulate such differences is to yearn for skyhook, which according to Dennett, is a flagrantly dishonest question-begging lifter in the plausible space of design.

[12] "Of course our minds are our brains, and hence are ultimately just stupendously complex 'machines'; the difference between us and other animals is one of huge degree, not metaphysical kind. It is no coincidence, I have shown, that those who deplore Artificial Intelligence are also those who deplore evolutionary accounts of human mentality: if human minds are nonmiraculous products of evolution, then they are, in the requisite sense, artifacts, and all their powers must have ultimately 'mechanical' explanation. We are descended from macros and made of macros, and nothing we can do is anything beyond the power of huge assemblies of macros" (DDI 370-371). The followings perhaps cut into the heart of Dennett's reasonings. "[A]utomata (computers or robots) don't have real intentionality; at best they have mere *as if* intentionality. Moreover, original or real intentionality cannot be *composed of*, derived from – or presumably, descended from – mere *as if* intentionality. This creates a problem…because whereas Artificial Intelligence says you are composed of automata, Darwinism says you are *descended from* automata. It is hard to deny the former if you admit the later; how could anything born of automata ever be anything but a much, much fancier automaton?" (DDI 398).

2.4 Folk Psychology and the Rationale for Intentional System[13]

Folk psychology is the common everyday psychological notions used to make intelligible our actions and the actions of others. We use it to explain, understand and predict the behavior of others and ourselves. It is a realist account of mind (see also BC 361), because it attributes real causal properties to mentality (BC 81-94). However, according to Dennett, folk psychological notions are of dubious interest to science. Beset with "conceptual infelicities and incoherencies" (BS xix), they are not good theoretical posits, any more than they are stable and well defined state or attribute, rigorous enough to serve scientific ends (BS xx, IS 14). In other words, they are not good "*illata*" (Dennett 1988b: 497; IS 55). Hence, Dennett's aim here is to keep what is worth keeping, to see how ultimately they could join forces with science (IS 47, 54, 66; see also BS 16).[14] This forms part of his ambitious attempt to provide compelling account of mind without question begging yet compatible entirely with physicalism.[15]

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[13] In large measure, "True Believer" from *Intentional Stance* (Dennett 1987b) is the canonical interpretation of intentional stance theory, or the flagship of Dennett's expression on the issue (IS 3).

[14] "Dispensing with intentional theories is not an attractive option, however, for the abstemious behaviorisms and physiological theories so far proposed have signally failed to exhibit the predictive and explanatory power needed to account for the intelligent activities of human beings and other animals. A close examination of the most powerful of these theories reveals intentional idioms inexorably creeping in – for instance in the definition of the stimulus as the 'perceived' stimulus and the response as the 'intended' effect, or in the reliance on the imputation of 'information bearing' properties to physiological constructs. Moreover the apparent soundness of information-processing theories, and their utility in practise, has strengthened the conviction that somehow we must be able to make sense of the ineliminable intentional formulations they contain without compromising thoroughgoing materialism" (Dennett and Haugeland 1987: 4-5).

[15] I cannot do better than to quote him here. "Complete success in this project would vindicate physicalism of a very modest and undoctrinaire sort: all mental events are in the end just physical events, and commonalities between mental events are explicated via a description and prediction

As folk psychological notions are messy and imprecise (BS xvii, IS 67), Dennett's intentional system thereby serves to provide formal and systematic means (IS 68) to instill order and help reorganize (BS 16) the hitherto undisciplined folk psychological notions - reformed by Dennett's theory of intentional system.

> A prospect worth exploring, though, is that folk psychology (more precisely, the part of folk psychology worth caring about) reduces – conceptually – to intentional system theory…..The analogy between the theoretical roles of Turing machines and intentional systems is more than superficial. Consider that warhorse in the philosophy of mind, Bretano's Thesis that intentionality is the mark of the mental….This has been traditionally taken to be an *irreducibility* thesis: the mental, in virtue of its intentionality, cannot be reduced to the physical. But given the concept of an intentional system, we can construe the first half of Bretano's Thesis – all mental phenomena are intentional – as a *reductionist* thesis of sorts….the claim that every mental phenomena alluded to in folk psychology is *intentional-system-characterizable* would, if true, provide a reduction of the mental as ordinary understood – a domain whose boundaries are at best fixed by mutual acknowledgement and shared intuition – to clearly defined domain of entities whose principles of organization are familiar, relatively formal and systematic, and entirely general (IS 66-68).

Hence, despite "its blemishes, warts, and perplexities" (BC 81-82), alongside the "problematic identity conditions" (Dennett 1988b: 497), upon reformulation through intentional stance, they facilitate construction of competence model (IS 58-61, 74). We start out at the abstract stratum and ask what specific functions or competence the model delivers. This then provides the guiding schema that constrains subsequent construction and designing of the performance models (IS 61-68, 73-81, 257; BS 12, 13, 15, 62, 80-81, 123; BC 310-311, 313; Dennett 1988b: 497). Description at the intentional level is, however, highly idealized and abstract (IS 48, 52; Dennett 1988b: 497, 537; BC 85, 87, 330), thus leaving rooms for maneuvering when it comes to actual instantiations at the performance level.

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system that is neutral with regard to physicalism, but just for that reason entirely compatible with physicalism. We know that a merely physical object can be intentional system, even if we can't prove *either* that every intentional system is physically realizable in principle, or that every

Insofar as the resulting competence model is fruitful and proves indispensable for application at the performance level, intentional system serves useful scientific ends.[16] On the whole, Dennett's theory of intentional system could be viewed as ambitious attempt to bridge and unify mind with the natural sciences. As oppose to other theses of mind that tend to drive a wedge between the physical and mental, Dennett aims to close up this gap with the postulation of intentional system theory (BS 22). Essentially, besides attempting to reconcile our "vision of ourselves as responsible, free, rational agents, and our vision of ourselves as complex parts of the physical world of science" (cf. Stich 1990: 167), Dennett hopes to show, by means of his intentional theory that mental idiom is continuous and not at odd with what is known in the physical world. Without question, his account of intentional system is a distinctly bold and novel attempt to legitimize the naturalization of mentalistic talk into the canon of hard sciences (BS xvii, xviii; Dennett 1988b: 495, IS 67, FDDI, Dennett 1969: 18).

2.5 The Three Stances

Dennett contends that there exists, in principle, three tactical strategies one could employ to *predict* the behavior of any systems, viz., the physical, design and intentional stance (BS 4-5, IS 16-17, Dennett 1988b: 496, KM 27-31). Which

intuitively *mental* item in the world can be adequately accounted for as a feature of a physically realized intentional system" (BS xviii-xix).

standpoint is used depends on which stratum is relevant and the most practical (i.e., most handy) for the purpose at hand. One can choose to adopt the most *fundamental* and therefore the most comprehensive means of prediction by adopting the physical stance. If this proves impractical, one could always resort to the less reliable design and intentional stances.

Clearly, Dennett's oft-cited example in this is chess programs (BS 5-8, 237-238; KM 30-31). Technically speaking, if one knows the physical laws governing the working of programs down to the minutest detail, one could predict with utter certainty how it would act or function given initial conditions. Provided one possesses good physical knowledge, one could choose to descend to this *absolute* level of prediction to account for the behavior/state of any systems. This is the most powerful stratum because it is evidently the most accurate and detail.

However, more often than not, we usually need not descend to this level. For the most part, it is usually quite sufficient to operate at the design level. Take the laptop by way of illustration. Most of us operating with computers do not know how it works. Yet, one could predict with high certainty - under normal conditions when the computer functions normally without breakdown - the corresponding behaviors of computer. Certainly, we cannot possibly be operating at the physical level, it is our design knowledge of the computer that endows us

[16] "What we want in the end, is a materialist theory of the mind as the brain" (BC 216), and "I have always been a realist about sub-personal intentional psychology" (cf. Bechtel 1985: 482 n5; see also IS 56-57, 70-71).

with predictive leverage instead. So, if our aim is practical, knowledge of innermost computer processes is inessential.

Adopting design stance enables one to function at the level of abstraction that omits or does away with the abstruse innermost processes of a system. Equipped with design know-how, one predicts with reasonable certainty the computer's behaviors, given inputs/instructions. One needs know nothing about electronics or transistors, switchboard nor electrical circuits. Nevertheless, even operating at design level could be impractical at times. Design of a system could be inaccessibly complicated that makes prediction a grueling exercise. Reverting to Dennett's chess example, it is essentially impractical having to hark back to program design each time prediction is to be made. However, according to Dennett, one could still predict with reasonable certainiy by *attributing* to the system intentionality (i.e., by adopting intentional stance). This allows one to function at even higher level of abstraction, leaving out the inextricably complicated and unmanageable physical and design details (DDI 358).

And therefore, according to Dennett, if one assumes the system rational, one could thereby effectively predict its move on account of beliefs and desires attributed therein. In any standard chess game, the ultimate goal is undoubtedly to beat (or checkmate) one's opponent. As such, if one sees the computer-cum-opponent as intentional system, the computer ought to believe and desire things which normally any rational chess players would desire and believe to win the

game. On the assumption of rationality, one could thereby predict with relative ease (roughly that is) moves of the computer by attributing to it beliefs and desires. Thanks to intentional stance, one achieves this impressive leverage without having to plough through the insufferable physical and design convolutions.

Intentional system, however, is at best a heuristic instrument insofar as it helps predict behavior by attributing it intentionality (Westbury and Dennett 2000: 24-25).[17] There is nothing intrinsically right or wrong in taking up the stance (BS 7). It is mere *tactical* ploy one adopts to help predict, understand and explicate behaviors (Dennett 1988b: 497, BC 360). On this construal then, irrespective of its concomitant innards, any artifact is in principle intentional system insofar as ascriptions of intentionality is fruitful to explicate behaviors (Dennett 1988b: 495, BS 237-238). Or to put it slightly differently, behaviors of human and nonhuman (regardless if its animate or inanimate) that could be effectively predicted from the stance is a true believer, i.e., believer in the fullest sense (IS 15, BC 326, 331).[18]

Because humans are nature's artifact and since there is in principle no sharp distinction between us and other animals or other artifacts in the world that are

[17] Basically, the theory is anchored in the following three basic principles of attributions (IS 17-20, 49; see also Stich 1990: 168-169, BC 292): i) A system would believe truth that is to its interest to have given its orientation in the overall scheme of things. Hence attribute belief to a system that it ought to have. ii) Similarly, attribute desires to a system that it ought to have given its constitution, i.e., given the way it has been designed to function in the world. iii) A system's would act in such a way as to produce behavior that would be rational for the system to have given the above.

[18] Dennett does provide some caveats to be discussed in the next chapter.

created mostly in accordance with the principle of natural selection, according to Dennett then, they are all legitimate intentional objects, differ more in degree than in kind (DDI 370, IS 112).[19] In other words, if intentional stance applies to humans, there is in principle no reason why it cannot also apply to thermostats, frogs and the likes (IS 29-31, KM 34, BC 76, 327, 331). It is within this intentional context that thermostats, amongst others, could have belief akin to that of humans (see also Dennett 1988b: 497, KM 26). From this, he argues for continuity amongst these categories of intentional objects, differences by which he characterizes according to hierarchical orders. Specifically, intentional system could be delineated in the following order (IS 242-247, BS 272-281, KM 121):

i) A first order system has basic belief that is not self-referring.

ii) A second order system has belief about belief. It is second order precisely because it involves second degree of complexity in terms of referential property of mental idiom.

iii) A third order system is even more sophisticated in that it involves third degree complexity. To use one of Dennett's examples, "x wants y to believe that x believes he is alone" (IS 243).

Dennett, concurring with Grice, however, agrees that in principle one needs to have at least a third order of intentionality to achieve human standard of complexity (IS 243-244).

[19] In principle, "[t]here is no magic moment in the transition from a simple thermostat to a system that really has an internal representation" (IS 32). "My view is that [human] belief and desire are like froggy belief and desire all the way up. We human beings are only the most prodigious intentional systems on the planet" (IS 112).

2.6 Realism and Intentionality

Intentional stance is *abstract* because it does not presuppose inmost mechanism for individuation of intentional states. On this, Dennett is strongly against hard-line realism especially of Fodor's variety. According to Dennett, one has beliefs and desires analogous to the way there really is center of gravity, the earth having equator or the calculator adding, dividing and so forth (IS 52, 72; BC 95-97, Dennett 1988b: 497). It is the kind of truth one must take with "a grain of salt" (IS 72-73). Dennett maintains that there is nothing "concrete" in the folk psychological notion of belief, it is merely virtual. Ordinary notion of belief occupies a somewhat middle position between being *illata* and *abstracta* (IS 54-57). However, to Dennett though "[t]he decision to adopt the intentional stance is free... the facts about the success or failure of the stance, were one to adopt it, are perfectly *objective*" (IS 24, emphasis added). Dennett in fact dubs intentional stance "instrumentalistic objectivism" (Dennett 1988b: 501). Hence, Dennett insists he is a realist of sorts with regard to mentality (IS 34, 37, 40, 71), though a mild one (IS 28, BC 97-99, 365). But, in what way is he a realist?

Dennett overtly rules out Fodor's industrial strength realism (IS 71, BC 84-85, 95-120; Dennett 1991c). His brand of realism, however, is founded upon patterns of behaviors discerned from intentional stance. It is objective in virtue of patterns obtained by means of intentional postulations at the abstract level of intentional stance.

> I have claimed that beliefs are best considered to be abstract objects…We use folk psychology…to predict what people will do next….Where utter patternlessness or randomness prevails, nothing is predictable. The success of folk-psychological prediction, like the success of any prediction, depends on there being some order or pattern in the world to exploit. Exactly where in the world does this pattern exist?….the pattern is discernible in agents' (observable) behavior when we subject it to 'radical interpretation' (Davidson) 'from the intentional stance' (Dennett)…I want to show that **mild realism is the doctrine that makes the most sense what we are talking about is real** patterns, such as the real patterns discernible from the intentional stance (BC 97-99).

According to Dennett, Martians, equipped with advanced physics may be able to predict behaviors down to the minutest atomic detail, but if they do not see us from intentional stance, they are missing out on objective patterns that abstract away or "absorb physical perturbations and variations that might as well be considered random" (IS 27; see also pp. 37-40).

One important ground for Dennett's skepticism of hard-line realism is his insistence on the impossibility in giving definitive and objective individuation of content. According to him, one cannot in principle rule out equally valid rival interpretations of content (IS 29, 40). In other words, there always exist indeterminacy of interpretation in content rendition (KM 41-49, Dennett 1988b: 503-504, DDI 408-412). He likens the search for *real* beliefs to the search for the elusive and ultimately nonexisting universal economic value. Contents are more like dollars, Dennett says, having no stable, fixed and determinate properties (IS 110-116, 206-208; BC 328-329, KM 47-48, Dennett 1988b: 500, GR 527). On this construal, it is thus misguided to look for deeper facts in content. Let's examine this in greater detail below.

2.7 Original And Derived Intentionality

What then exactly motivates Dennett's relativism of content? One of the theses central to the understanding of his position lies in his attack on original or intrinsic intentionality (which was briefly discussed in section 2.3). Original intentionality signifies intrinsic ways our minds can have meanings or semantic contents. Conversely, artifacts – i.e., any artifact at all - can only possess semantic content resulting from meanings derived from its architect or designer. Dictionary, in like fashion, has content referring to thousand of things in the world. However, it assumes intentionality only owing to endowment of meanings by users. By itself, it does not refer nor is it about anything. Hence, intentionality of artifacts are non-intrinsic, but derived.

By the same token, computers contain vast spectrum of inner representations, meaningless by themselves. Meanings are acquired only via its human progenitors. Hence, artifacts could not possess genuine or intrinsic intentionality. By contrast, it is often claimed that humans, unlike artifacts, possess original intentionality - intrinsic in the sense that its semanticity is genuinely underived. In this case, one is then one's own source and origin of meanings. Dennett employs two illustrative examples to argue for his case *against* intrinsic intentionality, and hence supporting his claim that human intentionality is as derived as any artifact.

Firstly, Dennett uses the example of vending machine (IS 290-294, DDI 404-407). There is this vending machine made in the States built to recognize or detect U.S. coins. Hence, in the U.S. environment, correct detection of the U.S. coins count as valid representation whilst identical detection of Panamian coins (as valid) count as misrepresentation. However, if one is to switch the scenario and places similar machine in Panama, what counts as valid representation is thus reversed. In Panama, it is the acceptance of Panamian coin considered legal whilst acceptance of the U.S. coins is misrepresentation. Intentional properties of the machine is indeterminate, hence there is no objectively true account of content (or semantic).[20] Evidently, intentional property of machine depends on user's intention. As intentionality of machine is derived from users, intentionality of artifact cannot be intrinsic. Dennett surmises that this principle applies not only to artifact, but to human as well. In this, evolutionary thinking is invariably invoked to bear out his case, as we shall see in what follows.

[20]In the same vein, Dennett makes the same argument with regards to the issue as to what the frog's eye really tells the frog's brain: "the frog's visual system is sensitive to small moving dark spots on the retina, tiny shadows cast in almost all natural circumstances by flies flying by in the vicinity....Now, what does the frog's eye tell the frog's brain? That there is a fly out there, or that there is a fly-or-a-'slug'...Millikan, Israel and I, as Darwinian meaning theorists, have all discussed this very case, and Fodor pounces on it to show what is wrong, by his lights, with any evolutionary account of such meanings: they are too indeterminate...Suppose scientists gather up a small population of frogs of some fly-grabbing species, on the brink of extinction, and put them under protective custody in a new environment – a special frog zoo in which there are no flies at all but, rather, zookeepers who periodically arrange to launch little food pellets past the frogs in their care. To their delights, it works; the frogs thrive by zapping their tongues for these pellets, and after a while there is a crowd of descendant frogs who have never in their lives seen a fly, only pellets. What do their eyes tell their brains? If you insist on saying the meaning has not changed, you are in a bind, for this is simply an artificially clear instance of what happens in natural selection all the time: exaption" (DDI 407-408).

Let's see how Dennett argues for this in another thought experiment which employs the allegory of survival machine. In this example (IS 295-298), Dennett asks us to imagine, for some reason, that one desires to experience life in the year 2401. As such, one needs to find ways to preserve one's body. To this end, one could design some sort of robot capsule that allows hibernation for few hundred years and having all needs simultaneously attended to.

This robot must be sophisticated and intelligent enough to survive all conceivable hardship and plausible calamity of nature. In view of this, they are endowed with very human-like meta-control and meta-reflective mechanisms, allowing it to "know," "seek out," "recognize," 'anticipate," "reason," "communicate," "learn from past errors," "plan for the future" and so on (DDI 423). This robot is surely many times more advanced and sophisticated vis-a-vis the two-bitser. However, in spite of its extraordinary human-like sophistication, its derived semanticity nonetheless mirrors closely those of the two-bitser.

But this is hardly Dennett's intent. Because parallel the earlier two-bitser, there is nothing distinctive about this claim. Dennett, however, makes a twist in his argument. Finding support from evolutionary thinking, he argues that we are artifact, just like the robot in the abovementioned, i.e., we are survival machine built to house and further the interests of genes in our bodies. Hence, whatever intentionality we have is derived from our genes. We are merely vehicles of genes, hence cannot possibly be the progenitor of meanings. In other words,

selfish genes are the "Unmeant Meaners," which is another way of saying our intentionality is as derived as any artifacts we know, because we ourselves are artifact (IS 298, 305; see also FDDI 268).

However, genes by themselves could not do all the designing, it does not have the foresight to plan ahead. If the robot that buys us time for the year 2401 cannot exist without a human architect, then who is our ultimate designer from which our intentionality is derived? It is of course mother nature herself working through eons of essentially mindless tinkering by way of natural selection. This essentially blind and mechanical processes - via covert and subtle ways "chooses," "discriminates," "recognizes," "coordinates" and so on (DDI 423), ostensibly performing the role of intelligent artificer - is, in the main, *agent* responsible for designs we find in nature.

Hence, there exists some kind of "free floating rationales," epitomizing (mother) nature's mind.[21] However, there is no stable and fixed way to pin them down as they are not in any way objectively represented (IS 259, 286; Dennett 1991c: 93-94). The question whether the celebrated panda thumb is really a thumb or wrist bone is in principle indeterminate, it is not a represented fact in nature (Dennett

[21] Dennett seems to think that this 'free floating' unrepresented *raisons d'etre* are equally valid in grounding content as the more straightforward 'represented intentionality' in humans. This, in part, justifies or explains his attribution of belief to artifact like thermostat as indeed there is no sharp discontinuity: there is just "the continuum of process types that take us from brute, non-inferential tropism, through various inference-like steps, to fully-fledged rational thinking" (DC 225; see also Dennett 1984a: 21-22, KM 49, 60, 122-123, 131).

1988b: 504, IS 319-320).[22] To read nature's mind, one supplies it with interpretations through intentional stance. One engages in what Dennett dubs artifact hermeunetics (IS 304, 311-312; Dennett 1990c: 181-186), by which there exist no one canonical interpretation, for there is no deep fact that settles the issue (IS 40-42, 108, 113, 300; BC 321-322, 360). As Dennett himself emphasizes, "[w]e cannot begin to make sense of functional attribution until we abandon the idea that there has to be one determinate, right answer to the question: What is it for" (IS 319). Hence, all attributions of functions are interpretations based on invocation of optimality assumption. Intentionality, in this regard, is derived (in the form of derived intentionality) from "free floating rationales of the design" (KM 60) manifested in selection processes (in virtue of design by hard biological wiring or postnatal design fixing or even design by human engineer).

This naturally results in functional ascription of content (Dennett 1991c: 90, CE 460, BC 359, DC 222, FDDI 263, 267). Because on Dennett's account, content is "a function of its function in the organism, and this function is – and in the end, must be – a function of the *structure* of the state or event and the system of which it is part" (BS 163). Since evolutionary *raisons d'etre* serves the bedrock from which teleological functions are construed, a system's teleological function is nothing but the "free floating rationales" or the unrepresented reason that serve covert evolutionary ends and purposes (by virtue of natural selection). But, then,

[22]In fact, "[w]hat started out as a two-bitser can become q-balber; what started out as a wrist bone can become a panda's thumb, and what started out as an innate representation meaning one thing to an organism can become over time in a new environment, to mean something else to that organism's progeny" (IS 307; see also Dennett 1988b: 498).

since it is free floating and unrepresented, one would have to resort to other means to uncover them. Hence, we see Dennett suggesting that "you cannot do psychology (as opposed to neurophysiology), without determining the semantic properties of internal events and structures under examination, and you cannot uncover the semantic properties without looking at the relations of those internal events or structures to things in the subject's environment" (IS 154).[23]

[23] On Dennett's construal, essentially there are five ways with which one could ascribe content (Dennett 1990j: 18-27, BC 66):
i) through design by natural selection;
ii) through design by some learning process in the brain;
iii) through design by engineer creating artifact (e.g., computer and robot);
iv) by virtue of Cosmic Coincidence; and
v) by invoking God.
Dennett rules out invocation of Cosmic Coincidence and God as appeal to skyhook, unworthy of serious consideration (Dennett 1990j: 21, BC 67). However, according to Dennett, there is in principle no difference in kind among the first three kind of designs (BC 69-70), for in important ways, they mirror the different sequence in Dennett's tower of generate and test hierarchies (BS 71-89, CE 171-226, DDI 373-381, KM 83-90, 100-101; Dennett 1994c: 167-171). These hierarchies designate a continuum of system with different degree of adaptiveness and responsiveness to changes in environment. They show the different stages of sophistication in terms of the system's ability to employ information and hence adjust to the environment. It is illuminating to see these three level of designs in terms of different stages of evolutionary development as Dennett characterizes them: i) Hard wired genetic evolution (CE 173-176, DDI 373-374, BS 74-76). The design is hard because the system cannot learn through its interaction with the environment. It is essentially a blind mechanical process in which mother nature, through essentially random mutation of genes, churn out wide varieties of design option for selection by nature. The process of natural selection ensures only good designs that fit well with the environment survive. Systems that survive these tests would be rewarded in turn with the chance to propagate and multiply. This in fact represents the foundation or the ground floor of the tower Dennett envisages. This stage of the tower is inhabited by what Dennett dubs the Darwinian creature. ii) Postnatal design fixing of phenotypic plasticity (CE 177-193, DDI 374-375, BS 76-77). Mother nature continues to build on foundation laid by the process of hard wired evolution. Being largely tropistic and instinctual, hard wired phenotypes are invariably rigid and inflexible in responding to the vagaries of the environment. Hence, next stage of design space sees mother nature endowing its creations with abilities in self-designing through the process of soft-wiring. This greatly enhances their survival abilities, as with added plasticity in behaviors, they are able to adjust to unpredictable changes in environment and hence are better adapted. In other words, they are able to learn by reinforcement (through learning) of good tricks against many others that do not work owing to plasticity in design that allows them to readjust/redesign itself. Dennett calls them Skinnerian creatures for the role Skinner's conditioning plays in learning processes. Second form of post-natal fixing endows organisms with even greater plasticity and adjustability. Whilst Skinnerian creatures need external environment to provide feedback that filter out non-adaptive behaviors and reinforce the adaptive ones. At third level of the tower, however, there is no need to generate and test different alternatives in outer environment as there is inner environment that plays similar role. Alternative ideas or hypothesis are generated and tested internally before acted out. Behaviors thus produced have great chance to succeed since they are preselected internally.

Without question, indeterminacy of content is key to Dennett's conviction in content irrealism. As Dennett countenances, "[y]ou can't have realism about meanings without realism about functions" (IS 321; Dennett 1988b: 504). And functions, as we have seen, defy unequivocal interpretations. Perhaps owing to this, Dennett is largely skeptical that meanings and semantics *per se* could be reduced to brain properties (e.g., neurophysiology).[24] Such micro-reduction is largely a waste of effort, because meanings, on Dennett's contention are, in the main, irreducible. In other words, the brain that is essentially a syntactic engine does not give rise to semantics (IS 61), neither do semantic engines having corresponding causal influence or power on brain's functioning (BC 63, 67). As such, one may be versed in brain design and functioning, but this hardly matters, for to ground semantics, one needs to ascend to the level of intentional stance and the external world.[25]

These creatures have the privilege of internal selection of hypothesis without having to actually act them out and Dennett names them Popperian creatures. iii) Cultural and Meme Evolution (CE 199-208, DDI 376-383). Human beings and many other animals are Popperian creatures, but what really sets us apart from the rest of creatures is we are also what Dennett calls Gregorian creature. This represents the most versatile and powerful of Dennett's hierarchy of generate and test tower. Its power lies in its ability to probe, exploit, hypothesize, generate and test design of outer environment, hence incorporating them as extension of phenotypes. Science is the example *par excellence* that best reflects this elevation of power in its mastery of nature. The acquisition of language by humans has also greatly transformed our capabilities in redesigning by greatly enhancing our capabilities in trying out unexplored design spaces and niches through cultural and memetic evolution that would not have been possible otherwise.

[24] Dennett is clear and uncompromising on this. "Certainly the one step micro reduction of folk psychology to physiology alluded to in the slogans of the early identity theorists will never be found – and should never be missed, even by staunch friends of materialism and scientific unity" (IS 65-66).

[25] Says Dennett, "[t]here is no way to capture the semantic properties of things (word tokens, diagrams, nerve impulses, brain states) by a micro-reduction. Semantic properties are not just relational but, you might say, super-relational, for the relation a particular vehicle of content, or token, must bear in order to have content is not just a relation it bears to other similar things (e.g., other tokens, or parts of tokens, or sets of tokens, or causes of tokens) but a relation between the

> It is the task of sub-personal cognitive psychology to propose and test models of such activity – of patterns recognition or stimulus generalization, concept learning, expectation, learning, goal-directed behavior, problem solving – that not only produce a simulacrum of genuine content-sensitivity, but that do this in ways demonstrably like the way people's brains do it…It is here that we will find our good theoretical entities, our useful *illata*…..The only similarity we can be sure of discovering in the *illata* of sub-personal cognitive psychology is the intentionality of their labels ….In order to give the *illata* these labels, in order to maintain any intentional implementation of their operation at all, the theorist must always keep glancing outside the system, to see what normally produces the configuration he is describing, what effects the system's responses normally have on the environment, and what benefit normally accrues to the whole system from this activity….The alternative of ignoring the external world and its relations to the internal machinery…is not really psychology at all, but just at best abstract neurophysiology – pure internal syntax with no hope of a semantic interpretation. Psychology 'reduced' to neurophysiology in this fashion would not be psychology, for it would not be able to provide an explanation of the regularities it is psychology's particular job to explain: the reliability with which 'intelligent' organisms can cope with their environments….Psychology can, and should, work toward an account of the physiological foundations of psychological processes, not by eliminating psychological or intentional characterizations of those processes, but by exhibiting how the brain implements the intentionally characterized performance specifications of sub-personal theories (IS 63-64).

Unlike the Churchlands' arguing for elimination of folk psychological notions once mature cognitive science is in place, Dennett seems to accord unique status to intentionality by which "[t]he final reductive task would be to show not how the terms of intentional system theory are eliminable in favor of physiological terms via subpersonal cognitive psychology, but almost the reverse: to show how a system described in physiological terms could warrant as interpretation as a realized intentional system" (IS 68).

2.8 Conclusion

To get to the bottom of Dennett's philosophy of mind, it is crucial to understand better his ideas of content irrealism. I can do no better than to let him speak.

> There are two different strands of 'realism' that I have tried to undermine:

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token and the whole life – and counterfactual life – of the organism it 'serves' and that organism's

1. realism about the entities purportedly described by our everyday mentalistic discourse – what I dubbed folk psychology – such as beliefs, desires, pains, the self;

2. realism about content itself – the idea that there have to be events or entities that really have intentionality (as opposed to the events and entities that only behave as if they had intentionality) (BC 361).

Dennett's intentional stance, firmly entrenched in the physicalist tradition (IS 5, DC 205, BC 366, BS 312), is an original thesis of mind, occupying a unique stature in the philosophy of mind. Essentially, what sets him apart from those of his philosophical adversaries (e.g., Fodor, Nagel, Block, Searle, and Drestke among others) is his insistence on a largely pragmatic construal of intentionality. Contrary to the way folk psychological realism attributes causal efficacy to belief and desire states in order to explicate and predict behaviors, Dennett holds that folk psychological notions are plagued with problems and hence are not respectable scientific entities.

Hence, ascriptions of intentionality, on Dennett's construal, could only be justified if it serves pragmatic purpose for predicting behaviors. Unlike Churchland's radical eliminativism, though Dennett believes folk psychology is a myth, it is retained for its indispensable usefulness. No one thus far is able to formulate alternatives as effective and fruitful in predictive power. Hence, the use of mentalistic predicates ought not be jettisoned but ratified purely because of its fruitfulness (IS 47-49).[26]

requirements for survival and its evolutionary ancestry" (IS 65).

[26] "We think beliefs are quite real enough to call real just so long as belief-talk measures these complex behavioral-disposing organs as predictively as it does" (BC 114).

Prediction is one important mainstay of intentional stance, but there are other elements the theory cleaves on in order to predict anything at all. In intentional stance theory, this comes in the form of behavioral patterns. On Dennett's reformulated version of folk psychology, belief and desire are not entities subsumed by real innards or genuine physical states of physical systems. It is posited purely for its pragmatic fruitfulness.

> [A] system whose behavior can be – at least sometimes – explained and predicted by relying on ascriptions to the system of beliefs and desires (BS 3);
>
> [T]he definition of intentional systems I have given does not say that intentional systems really have beliefs and desires, but that one can explain and predict their behavior by ascribing beliefs and desires to them…the decision to adopt the strategy is pragmatic and not intrinsically right or wrong (BS 7);
>
> Whenever one can successfully adopt the intentional stance toward an object, I call that object an intentional system. The success of the stance is of course a matter settled pragmatically, without reference to whether the object really has beliefs, intentions and so forth; so whether or not any computer can be conscious, or have thoughts or desires, some computers are undeniably intentional systems, for they are systems whose behavior can be predicted and most efficiently predicted by adopting intentional stance toward them (BS 238); and
>
> [A]ll there is to be a true believer is being a system whose behavior is reliably predictable via the intentional strategy (IS 29).

Traditional behaviorism, though discredited, forms the pretext to subsequent development in philosophy of mind in the postwar period, and its unmistakable influence could be found in important philosophical position held today. Dennett's theoretical stance, as one of its sophisticated descendants,[27] is amongst the more remarkable instances. Certainly, though Dennett himself balks at the Skinnerian and Rylean brand of behaviorism, he however propounds a version of it insofar as he employs behavioristic yardsticks to ground psychological phenomenon: organisms that exhibit similar behavioral dispositions cannot fail to

have identical psychological profiles. In responding to Jackson's (1993: 901-902) demand for a truth-maker to ground psychological phenomenon, he rebuts thus:

> let me confirm Jackson's surmise that I am his behaviorist; I unhesitatingly endorse the claim that necessarily, if two organisms are behaviorally exactly alike, they are psychologically exactly alike (MNM 923).

However, Dennett's brand of behaviorism is not to be blindly identified with those of the traditional school.

> The standard arguments against both Skinnerian and Rylean behaviorism do not touch my view…My anti-behaviorist credentials are impeccable (DC 210).
>
> [T]he tricky word 'behavior' can be understood to mean something like 'peripheral,' 'external,' 'readily observable' behavior. I am not now and have never been that kind of behaviorist. I am the kind of behaviorist that every biologist and physicist is. The biologist says that once the behavior of the pancreas or the chromosomes or the immune system is completely accounted for, everything important is accounted for. The physicist says the same about the behavior of the electron (Dennett 1988c: 543).
>
> [P]eople like a memorable label for a view, or at least a slogan, so since I reject the label, I'll provide a slogan: 'Once you've explained everything that happen, you've explained everything.' Now, is that behaviorism? No. If it were, then all physiologists, meteorologists, geologists, chemists, and physicists would be behaviorists, too, for they take it for granted that once they have explained all that happens regarding their phenomena, the job is finished (DC 210-211).

Though Dennett balks at attempts to identify him as a traditional card-carrying behaviorist, there are grounds suggesting that Dennett is a behaviorist of some persuasion.[28] However, for the purpose at hand, it is not crucial, and certainly *not*

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[27] Dennett seems to accept Dahlbom's characterization of him as ardent behaviorist (Dahlbom 1993a: 4-5), though not without defense (BC 355, DC 205).

[28] "Behaviorism flourished in the first half of the twentieth century. Philosophers from that period with behaviorist leanings include Carnap, Hempel, Russell, Wittgenstein, and Ryle. Arranging some contemporary philosophers on a spectrum from the most behavioristically inclined to the least finds Quine at the behaviorist end, and Searle at the other. Davidson, Dennett and Dummett are closer to Quine than Searle, with Fodor, Dretske, (and many others) closer to Searle than Quine. Armstrong and Lewis are squarely in the middle" (Byrne 1994: 132; see also Symons 2002: 11). We see Dennett maintain that folk psychology, the precursor of the intentional stance "can best be viewed as a sort of logical behaviorism: what it means to say that someone believes that p, is that that person is disposed to behave in certain ways under certain conditions" (IS 50). That apart, intentional stance theory "is a sort of holistic logical behaviorism because it deals with the prediction and explanation from belief-desire profiles of the actions of whole system, but it treats the individual realizations of the systems as black boxes" (IS 58). Meanwhile, as Dennett also asserts: "[s]imple versions of behaviorism have been well and truly driven from the field, but

the aim of this exposition to establish if Dennett could be thus labeled.[29] Quandaries aside, there is evidently a *vital* sense in which behavioral patterns is the *raisons d'etre* of Dennett's strategic approach to the study of mind. Postulation of mentality is justified insofar as it serves tactical purpose in explicating and predicting behaviors.[30]

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once you see what non-behaviorism becomes in the hands of Searle (with his 'subjective ontology') or Nagel (with his scientifically inaccessible first person perspectives), the conclusion that beckons is that some version of behaviorism might not be so bad after all, and might even be the backbone of cognitive science" (FDDI 268).

[29]See McLaughlin and O'Leary-Hawthorne (1994) and Dennett's response thereof in GR (517-522).

[30]See also Akins (2002: 210) and Van Gullick (1994: 444).