

STUDI

Researching “The Mind”

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Abstract The first section of this paper outlines the major theme, that “mind” is not the label of something unitary but of a collection of things that can only be revealed by research at three different levels. The first level of enquiry is the account of mind that can be gleaned from what is often referred to as our *folk psychology*. Even with its limitations, it is an indispensable part of our social interactions. The second section outlines how, with the rise of *experimental psychology*, our account of human minds has been extended because experimental psychology often reveals a level of factors in our mental life which is not open to ordinary observation. The third section explores how our account of human minds is extended even further by the modern instrument-aided researches at the level of *neuropsychology*. The fourth section argues that no one level of enquiry should be described as ultimate or dominant but that each level reveals different facts about our mental life. The fifth section sums up and argues that a common narrow version of “naturalizing the mind” is a mistaken enterprise.

KEYWORDS: Mind; Mind/Body Problem; Naturalism/Naturalization; Psychology; Neuropsychology

Riassunto *Alla ricerca della “mente”* – La prima parte di questo articolo illustra il tema principale del lavoro, ossia che “mente” non è l’etichetta linguistica per qualcosa di unitario, ma sta a indicare un insieme di cose che può solo essere svelato da una ricerca da condurre su tre differenti livelli. Il primo livello d’indagine è la descrizione della mente che può essere desunta da ciò cui solitamente ci si riferisce come la nostra *psicologia ingenua*. Nonostante i suoi limiti questa è una parte imprescindibile delle nostre interazioni sociali. La seconda parte illustra come, con il sorgere della *psicologia sperimentale*, la nostra descrizione delle menti umane si è estesa, poiché la psicologia sperimentale spesso rivela un livello di fattori nella nostra vita mentale che non sono accessibili con l’osservazione ordinaria. La terza parte esplora come la nostra descrizione delle menti umane è andata anche oltre grazie all’apparato strumentale di cui i ricercatori hanno potuto fruire sul piano della *neuropsicologia*. Nella quarta parte si sostiene che nessuno dei livelli d’indagine può essere descritto come ultimo o dominante, ma ogni livello rivela fatti diversi sulla vita della mente. Nella quinta parte si tirano le fila del discorso, sostenendo come una visione ristretta di senso comune della “naturalizzazione della mente” sia un’impresa fuorviante.

PAROLE CHIAVE: Mente; Problema mente/corpo; Naturalismo/naturalizzazione; Psicologia; Neuropsicologia

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MY INTEREST IN THIS ESSAY is not with the merits or otherwise of individual theories about the nature of mind and body and their interconnection. My concern is with an assumption, which has been made by almost all of the mind-brain theories put forward over the last hundred years or so and has shaped their theories in a very strong way, but has by and large remained unexamined.

In more detail my concern is that, very briefly, all the mainstream accounts from mind-body dualism to functionalism and beyond seem to presume that the mind or the mental is unitary or monolithic in some quite fundamental way. Either the mind (or "mentality") was conceived of as a special sort of "stuff" or special type of property which merits the label "mind", or as our dispositions to produce a special class of "higher" cognitive behaviour, or as nothing but the brain, or as a special functional way of talking about brains and behaviour, and so on. In general it was always a case of looking for some *one* thing in a wide sense of the term "thing", as it was variously used to mean a basic "stuff", a distinctive property, a special set of dispositions, an amateurish way of referring to the brain, the brain itself, or a special sort of functional description. One shining exception, of course, was Freud who argued that the mind operated on three levels – the conscious, the sub-conscious and the unconscious. But the influence of Freud and psychoanalysis on mainstream philosophy of mind, psychology and neuroscience has been negligible.¹

The conceptualizing of the human mind as unitary all too easily leads to researchers dismissing the levels and areas of enquiry that do not fit in with their "unitary" view. Thus a Cartesian-minded researcher (in, say, Phenomenology or Phenomenological Psychology), who believes that the term "mind" is co-extensive with "consciousness" will dismiss anything unconscious as ipso facto non-mental. Contrariwise "a mind is nothing but the brain" researcher will dismiss the world of consciousness and *qualia* as illusory, and a behaviourist will dismiss from the purview of

research into the mind anything that can not be captured in terms of contextual input and consequent behavioural output, and so on.

I want to counter-suggest that the proper way of explaining human psychology, and in that sense give a proper explanation of mind, human minds, is to seek explanations at a number of different levels which will have interconnections of various kinds. But to say that is give you the ending before the journeys that lead up to it.

I

Traditionally the first level of explaining the mind is by means of our ordinary, culture-guided folk psychology. This level is essential to our ordinary social cum cultural intercourse, for it enables us to build up some model or picture of the "mind" or psychology of our friends, acquaintances and any others we come in contact with in our daily commerce. To have a good model or picture (a picture with some explanatory and predictive value) of the psychology of, for example, your colleagues is to know a great deal about their beliefs, hopes, needs, goals and values which will enable you to predict in an approximate way what they are likely to do or how they are likely to react on most occasions. In turn this enables you to avoid hurting or embarrassing them, to commune with them in a pleasant manner, to aid them when their plans go awry, to soothe them when their psyche is bruised, and so on. This ability to "look into the mind of another" (or simulate or model the mind of another) makes social life possible or, at least for the most part, bearable. A typical folk psychological explanation of some piece of operant or purposive behaviour is to say "She did that because she believed no one was about and had a strong desire to ease the itch on the inner side of her nose" or "He insulted Fred because he resented Fred's continual boasting about owning a FIAT 124 Spider sports car and its capabilities".

But our folk psychological model-making

is also very important in respect of ourselves. It enables us to carry about a model or picture of our own person and personality, and so to give our life and behaviour some structure and coherence and, perhaps most importantly, value. We need a good "self-concept" to be, as the Irish sometimes say, "happy in oneself". When we become incoherent about our own mind, when our folk psychological view of it becomes fractured or hopelessly blurred or lacking in confidence in regard to it, our behaviour will disintegrate and we will be deemed to be mentally ill. There are many causes of mental illness, of course, including suffering a severe blow to the head or becoming addicted to some drug. But this incoherence, at the folk psychological level of picturing ourselves mentally, can be caused in a myriad of ways. For example, a young person may lose confidence in herself through bullying or failing to fit in socially because of her sexual orientation or because of sexual abuse of some sort. She may lose sight of any good on the horizon. More generally one way of sliding towards suicide is to view oneself – one's needs, desires, hopes, aims – as hopelessly blighted, frustrated, blunted, underappreciated and so without value. In folk psychological terms we would say that such a person has lost hope and so is "in despair".²

Our folk psychological accounts of minds are also important in the intercourse between cultures.³ Many of the allied prisoners of war of the Japanese in WWII underwent another layer of suffering, besides those due to incarceration and its cruelties and privations, when they found themselves unable to comprehend the mind of their Japanese captors. The prisoners could not predict the actions or reactions of the Japanese so that the latter's behaviour often burst forth as completely unpredicted and inherently unpredictable. On top of their physical suffering, their puzzlement, surprise, astonishment and sheer incomprehension reached high levels of cognitive distress. Of course the Japanese encountered the same difficulty in reading the

minds of their captives but then their suffering was less as they were in charge of the tragic (and sometimes comic) proceedings.

We can be better or worse than others at concocting folk psychological models of ourselves and others, just as we can be better or worse at anything that takes time to learn and employs abilities in the process. We admire the detective work of the Miss Marples⁴ of this world because we admire their superior grasp of folk psychology. We blunder in and say "He couldn't have killed Elizabeth as he loves her", but Miss Marple gently reminds us that we can kill out of love just as easily as out of hate, because love can generate jealousy and fear and anxiety and pain, and all these can be motives for and at times the precipitating causes of murder.

The folk psychological level of psychological explanation is the most obvious home of intentional talk. "Intentional talk" is the phenomenon whereby we express – at least in English – a belief or a hope or an intention, or want or need or desire, in terms of a subject and verb plus a content describable by means of a particular non-substitutable description. When we believe something or desire something, we do so in terms of an inescapably particular and personal viewpoint (*intentio* in Latin) about what it is we believe or desire. So, when this *intentio* is expressed verbally, we do so partly in terms of a particular description of what it is that we believe or desire. If I believe that the old man who lives across the road from me is now 78 years old, it does not follow that I believe that Professore Emerito Giorgio di Luca who, during working hours, occupies room 101 in the basement of the Department of Anthropology at the University of Siena, is 78 years old. I may not know that "the old man who lives across the road from me" is one and the same person as "Professore Emerito Giorgio di Luca who, during working hours, occupies room 101 in the basement of the Department of Anthropology". So I could sincerely agree that I believe that the old man who lives across the road from

me is 78 years old, but sincerely deny that I have any knowledge or belief about Professore Emerito Giorgio di Luca.

The basic source of most of our information is perceptual in the broadest sense, and perception is inherently aspectual. We see or hear something from a particular direction or viewpoint. Likewise a large "picture", or picture in a wider not-merely-perceptual sense, of Professore di Luca, or anything else is aspectual. I will know or believe certain facts or alleged facts about him but not others. My "grasp" of him, cognitively speaking, will be irredeemably aspectual. It is salutary to reflect that a computer and a radar receiver, at least when described as if they were human knowers, are similarly aspectual. The Trinity College Dublin computers will tell you that Martin O'Murchu is a member of the staff of Trinity College but it will deny (not tell you or not respond positively when queried) that Martin Murphy (the anglicization of that name) is a staff member of Trinity College. The radar scanner will tell you that an aeroplane flying at the speed of sound is approaching from the north but not that the only combat jet plane Luxembourg has is approaching from the north.

All knowledge of the universe around about us except, the theologians tell us, that of God, is aspectual. Our folk psychological descriptions of ourselves or others, being intentional descriptions, are aspectual. We describe or explain the minds of ourselves or others through our *intentio* of ourselves or them. We describe both ourselves or others from our own *point of view*, as there is no *view from nowhere*.

II

There is no denying that, even from within its own sphere, our folk psychological knowledge of minds is limited and open to error. Our everyday folk psychology, so very useful, is nevertheless inescapably intentional and thereby subjective, aspectual and partial.

So why should our mind (our psychology) only be describable at that one folk psychological level? Particularly if it is likely that folk psychology evolved by humans looking at other humans from the outside, watching their behaviour, gestures, postures and utterances. What is more this approach to our psychology seems to have evolved millennia ago but has served us well in its limited scope of enabling our ordinary social cum cultural intercourse, by enabling us to build up some model or picture of the "mind" or psychology of our friends, enemies or acquaintances and any others we come in contact with in our daily commerce. But, to repeat this point, it is inherently and admittedly (or should be) limited in scope and open to error.

So if we take our folk psychology to be a first-level, socially-useful but limited approach to human psychology or our knowledge of minds, what is the next level? The next level is experimentally-based psychological descriptions generated by professional psychologists. Towards the end of the 19th Century when psychology made its break away from philosophy, its early experiments were subjective introspective experiments. But with the overthrow of Introspectionism by Behaviorism, psychological experiments became by and large objective behavioral experiments.⁵ For example, a psychologist, masquerading as a market-researcher, might ask people in the street to taste the toothpaste in eight separate tubes of toothpaste, where the tubes have been given plain wrappers, are numbered 1 to 8 and have been placed side by side on a display tray. She will then ask the people in the street, who come towards the tray out of curiosity, to taste the paste from each tube and report which paste tastes the best. She will find that the great majority choose tube number 8 as having the best tasting toothpaste. She will then ask each subject why they chose the toothpaste they chose. The subjects will produce a remarkable array of explanations, from the baroque, "Number 8 has a deeply satisfying after-taste like the best mint julep tea", and the

precise "I love its freshness", to the non-committal vagueness of "It just has something the others don't have".

Later the psychologist informs her colleagues in a research seminar that it was the exact same toothpaste in all the tubes and that the majority chose the paste from tube number 8 because it was on the right-hand-side of the tray and, since English, Italian, French or German was the mother-tongue of most of the subjects, the subjects "read" or scanned the tray from left to right. This means that the last item on the right-hand-side of the tray attains, unknown to the experimental subjects, a privileged position in respect of attention and subsequent selection. She may then label this observed effect of position on choice as "the position effect".⁶

"The position effect" is intentional because it involves perception and attention but "the work" so to speak, the causal work, is being done via the human habit of people in certain cultures reading or scanning always from left to right. The habit is now incarnated in us and does its work in an unobtrusive subterranean way. We don't notice it at work. It is also not readily associated with our intentional attitudes. However, when the subjects were asked for an explanation for their choice of paste, they immediately launched into an account that involved the attitude of "liking" or "loving". They, like us all, operate in everyday life at the level of the attitudes of folk psychology.

Let us consider another explanation of behaviour from the point of view of experimental psychology. This example has been dubbed "the bystander effect".⁷ As an experiment, an incident is "created" involving a pedestrian in a busy street being punched, robbed of a bag and then pushed over. Repetitions of this experiment revealed that the likelihood of a passerby going to the aid of the victim is roughly in an inverse proportion to the number of other people visible nearby in the street. The greater the number of perceived bystanders, the less the likelihood that one of them will go to the aid of the street victim.

The form of these experiments is related to the classical structure of psychological behaviourism. The aim is to control the environmental input and observe what output in terms of human behaviour is elicited by it, and then to quantify the results and produce a statement about the probable "effect" on humans in that context.

Producing such quantifiable results led psychologists to realize that, if one could accurately construct and control an environment, then one could also condition subjects via the environment so as to control their behaviour. Thus the psychologist might seek to cure a person's addiction to smoking cigarettes by associating images of cigarette smoking with images of scarred and cancerous lungs and decaying teeth. Or the psychologist might seek to cure a subject of a phobia in connection with cats by placing them in a room full of very tranquil and affectionate cats, bringing the subject close to a cat and getting him or her to stroke the cat explaining that the resulting purring is sign of cat happiness.

The reason why these sorts of psychological experiments amount to a second level of knowledge and description of our minds, is that they very often amount to a correction of our folk psychological account of the human behaviour elicited in that context. That we used our folk psychology to explain why we chose the toothpaste at the end of the line-up or why we didn't go to help the victim lying in the street makes it clear that we are giving "mental" descriptions. It makes it clear that we see ourselves as talking about minds. That the psychologists' experiments often contradict the explanations of folk psychology shows that this second experimental level of explanation is still in the realm of what we consider to be mental. It just gives different results or different information which is sometimes a correction of the traditional version from folk psychology.

This second-level experimental type of psychological explanation is not rejecting our ordinary folk psychological explanation so

much as now and again putting it in its place. Of course person X did believe that the toothpaste tasted like mint julep tea and person Y did believe that it had a freshness that the other toothpastes did not have. Furthermore the beliefs will likely have led them to say what they did say about why they chose that toothpaste (at the right-hand end of the line of toothpastes) rather than the others. Nevertheless the subjects were simply wrong about why they chose the toothpaste they chose. Their beliefs about the taste of the toothpaste did not cause them to choose as they did, the position of the toothpaste did. Their account in terms of taste was a *post fac-tum* folk psychological rationalization.

Some of the results of such psychological experiments should still be described in terms of motivation or lack of it, and so should still be described in folk psychological terms. For example, in regard to "the bystander effect", the experimenter will very likely be interested in the bystanders' own explanations as to why he or she did not go to the help of the victim. These explanations will refer to the bystander being shy or afraid or confused or in a panic or some such, though even here the experimenter may be able to "read" the bystander's intentional attitudes better than the bystander himself or herself. For the experimenter is more likely to be impartial and objective.

Another somewhat bizarre example. An action might be caused subliminally,⁸ that is to say, through information entering our head *sub limen mentis consciae* or below the threshold of consciousness. For example, a single frame with a picture of a hat and the text "Buy Monsieur Chapeau's Hats", might be inserted at regular intervals (say in one frame in every twenty five) in the long strip of plastic which comprises a copy of the film *La Dolce Vita*. Whether or not this would induce a viewer to buy a Monsieur Chapeau Hat, or any hat, is unclear. What is not in dispute is that the information is received, though the viewer does not know that he or she received it. His or her brain "reads" the

message, but he or she does not. Indeed, if questioned, he might say that he has never heard of the brand of hats called "Monsieur Chapeau's Hats". What's more he himself doesn't wear a hat, though his friend on his left in the cinema does. But it is not too far fetched to say that, subliminally, he does "house" the belief that there is a brand of hat called "Monsieur Chapeau's Hats" and that, if he were a wearer of hats, he would consider it to be a good sort of hat for him to buy.

But there is really no need to delve into these bizarre and perhaps controversial examples. A great deal of the ordinary information a person acts on enters his or her head subliminally and so is usually unavailable for us in our folk psychological discourse. You are walking along a street, then look up and catch someone looking at you from a window a few floors up in the building across the street. You looked up most likely because your peripheral vision received the information that the person had moved. You visually "ingested" the movement without realizing it. In the same way you sit down quickly and successfully on the chair in your office that you've seen but not looked at. You realize the clock has stopped because the familiar unattended-to background noise of its ticking has ceased. In your car you negotiate a complex route home though all your attention has been taken up discussing Frege's theory of reference with your front-seat passenger.

It seems clear enough that experimental psychology often corrects our folk psychological explanations and often makes us aware of the parts of our psychology that remain below the surface of our ordinary conscious intentional life of hoping, wanting, believing, desiring, loving, hating and all the rest. Sometimes these corrections involve very basic levels of our mental life such as those to do with perception. The marvelous array of clever visual illusions associated with the names of Muller-Lyer, Necker and Zollner showed all too clearly that we can easily be duped by our basic senses, particularly vision.⁹

This corrective role for psychology has

led the more theoretically-minded psychologists or philosophers of mind to generate a new vocabulary for the mental activities that lead to human action. In recent cognitive psychology, for example, the causal explanation of why someone said or did something might be described in terms of the information about the environment just gained, plus an account of how it was presumed this information was processed in the light of information already held "in store". In turn this processing might be explained in terms of editing, interpreting, selecting, and the like. This information might then go through a further series of processes which are to be described as being weighed up or evaluated in the light of the subject's previously stored goals or plans or prohibitions. Finally these sub-routines might be described as being combined or summated to produce something like a "motor-set" or immediate plan of action.

These new concepts of cognitive psychology and information science are, of course, often intentional because they are epistemologically-based concepts. But these intentional concepts often bear little or no resemblance to the intentional concepts of our ordinary folk psychology. Indeed there has been a deliberate effort by much contemporary cognitive psychology to underline its distance from folk psychology precisely by generating this new scientific vocabulary that is more sophisticated and more exact and less subject oriented. This new vocabulary,¹⁰ is often borrowed from computer programming and hardware, and so there are references to storage, access, executive monitoring, discriminators, receptors, feedback, control loops, scanners, representors, analogues, parallel processing, recognition, simulation, and heuristic procedures.

As has already been acknowledged, a good number of these terms are nevertheless cognitive and so intentional. To monitor, discriminate, scan, represent, recognize, or engage in a heuristic (or investigative) procedure is to engage in an intentional activity. For to do any of these things involves at some

stage something like beliefs about the object, target or content of the activity of which these procedures are the antecedents, and so assumes an aspectual "grasp" of that object, target or content. But what has been left behind are the more subjectively loaded intentional concepts of folk psychology such as know, believe, guess, wish, want, desire, need, hope, fear, despair, love, hate and all the other terms of our everyday conversations.

III

The third level at which we discover things about the nature of our minds might be described as the neuropsychological. Given the nature of much of the research in this area, another way of putting it, or a great deal of it, might be to call it behavioural neuroscience, for the aim is very often to link neurophysiological activity directly to behaviour. Because its chief aim is relational in that way, it differs from pure neuroscience where the aim is the self-contained study of the brain's neurophysiology.

Neuropsychological explanations might seek to explain such matters as how the brain processes perceptual input, and integrates it with previously stored input, in order to direct subsequent human behaviour. While particular research projects may encompass only very small facets of these broad stages, the ultimate aim always, presumably, is to provide the "brain segments or stages" for the fullest possible explanations of human behaviour, including that behaviour we think of as "higher" or "cognitive" and so "mental". To take once again a simplified example. One might describe John's ears as having received certain sound waves, which, via the internal workings of his ear, and the auditory nerve, were converted into electrochemical signals. In turn these signals reached the auditory cortex and Wernicke's area in his left-temporal lobe and then, via the associative cortex, and the limbic region, reached Broca's area or the motor language centre in the inferior frontal gyrus of the left cerebral hemi-

sphere. John then moved the muscles associated with speech production and produced sound waves at an audible level of "so and so" decibels, and at the same time he appeared to be in a physiologically excited state. In a shorter folk psychological account, John is said to have replied angrily to an offensive remark.

The contrast in length and detail, and accessibility, between the neuropsychological explanation and the folk psychological one, makes it clear once again that the former could never replace the latter. But that is not the point of those who do research at this third neuropsychological level. For their point is that certain aspects of our mental life can only be revealed fully at this level. If one is to understand, and then cure, chronic aggressive irascibility, the explanation will most likely come about via the neuropsychology of anger. For the very fact that we have labelled it as "chronic", implies that we have failed to bring about any real understanding and so any hope of a cure at the "talking him or her out of it" or folk psychological level. Similarly amnesia, aphasia and various forms of the retardation or erosion of mental faculties and abilities will be, very often, the result of neurophysiological damage or malfunction, perhaps genetic or in the womb or at birth. Though there is less agreement in this area, mental illnesses such as chronic depression and paranoia, various forms of addiction and obsession, may eventually be best explained and alleviated at the neuropsychological level.

However it might be argued here that neuropsychological accounts are not really psychological at all, and so not about minds or psyche. They are just about our physiology and could be described in the electrochemical neurological vocabulary of pure neurophysiology. Consequently, it might be argued, the full neuropsychological accounts need not make any mention of human cognitive and appetitive functions.

But that argument is unconvincing. Our neurophysiology is not a world unto itself. It is the engine room of the whole human organism. Its activities only make sense when

connected with humans at the macro social or "ordinary living" level. To say otherwise would be like saying that the only real explanation for why the car turned left would be to mention just the electronics and mechanics of the car that turned left, without mentioning the driver and his desire to go somewhere and then his bodily movements at the macro level of foot and arm movements. To get back to humans and their behaviour, even in cases such as aphasia, say after a stroke, ultimately what we are seeking to explain is Fred's or Mary's sudden inability to form spoken sentences in a comprehensible manner or to understand what is said to him or her. We are seeking an explanation as to why their mind has suddenly been impaired in a drastic way, a way that makes their social life minimal or, in some cases, impossible. We have been given a deep-source causal explanation of what, at our folk psychology level, presented itself as an alarming and pitiable inability any longer to converse. For conversing is a very sophisticated cognitive ability, a very sophisticated part of our mental abilities, and we are the only animals capable of it.¹¹

Academic psychology has edged ever closer to the brain sciences and now invariably has units or sub-departments of neuropsychology. As we have seen one sort of neuropsychologist is in effect often a behavioural neuroscientist and is interested in the causes of behaviour at the level of brain processing. So it will be no surprise that of particular interest and pressing importance to some neuropsychologists will be the search for the causes and cures of the behaviour we associate with mental illness. The first category of such mental illnesses would be the fairly obviously chronic ones such as amnesia (loss of memory) and dementia (a more or less complete loss of cognitive abilities, with Alzheimer's Disease being the most common version). The second category will be mental illnesses where the basic cognitive abilities are by and large not impaired but where the behaviour in question is "socially eccentric" and so makes living a normal social life very

difficult. Another way of putting this is to say that the patient's grasp and use of ordinary folk psychology, or at least some areas of it, has become tenuous. This second category includes such mental illnesses as bipolar disorder (with its manic-depressive behaviour), psychosis and schizophrenia (with their delusional thinking and behaviour), paranoia (with its persecution-complex behaviour), and psychopathy (with its subject's stark egocentricity and consequent lack of the emotional spectrum of sympathy, compassion, guilt and remorse). In the light of the lack of conspicuous success in the cure of mental illnesses at the other two levels, medicine now most frequently looks to the experimentally-minded neuropsychologist for future cures.

The first category of mental illnesses is often described as "organic", that is to say, as associated with a breakdown at the organic level, where the organ in question is almost always the brain. Amnesia is a failure in either the ability to lay down memory traces and networks or else to retrieve information from them. Thus damage to the medial temporal lobe might be discovered to be the cause of chronic amnesia or else damage to the hippocampus and thalamus.¹² Atrophy of or damage to the anterior temporal lobe might be discovered to be the cause of severe semantic dementia.¹³ In the light of these findings the neuropsychologist may well argue that the best procedure is to try and stop further degradation of these areas or else hope that, in the future, the introduction of stem cells or something equally neurophysiologically basic might even reverse the damage. Future research is likely to focus on the latter.

But neuropsychological research is not just about organic mental illness and how to treat it. It is the newest pathway into our understanding of the human mind in general. To take just one further example, psychologists, long before the rise of modern brain scanners, were fascinated by the nature of emotions and knew that the brain and other parts of the body had a major role to play in it.¹⁴ But there is no denying that the modern

techniques for gaining information about brain functioning have improved our knowledge of the brain's part in our emotions. While for a long time it was suspected, or at least hoped that, in the manner of a modern revision of phrenology, distinct emotions were to be associated with distinct and discrete areas of the brain, this proved to be incorrect. Rather «a set of interacting brain regions commonly involved in basic psychological operations of both an emotional and non-emotional nature are active during emotional experience and perception across a range of discrete emotion categories».¹⁵ The same brain areas and their physiological or "bodily motions" consequences in pulse rate, respiration rate, sweating, gastro-intestinal motility and the like may be common to more than one emotion. So one cannot distinguish emotions, at least to the extent that we do with our rich folk psychological vocabulary, at the neurophysiological level. This in turn favours a cognitive account of emotion whereby it is argued that we should distinguish our ordinary folk psychological emotion types, such as anger and fear, on the basis of the subject's folk psychological view of the world around about her or him at that precise period of time. Thus the physiological upset will be assigned the label "fear", if the subject views the context as dangerous or threatening in some respect to herself or someone close to her, but the label "anger" if the subject views the situation as insulting or demeaning or irritating or something from that range of annoyance to herself or someone or something, such as a cause or ideology or religion, close to her. Emotions tell us about how we view the world, even if our view is mistaken. They are not reliable accounts of how the world is, but only reliable accounts of how we think the world is. Indeed our emotions can contradict what we say. The murderer can *say* he is sorry for killing the child when clearly, emotionally, the judge and jury can *see* he is not.¹⁶

But in looking at neuropsychology "in general", we also see its limitations. In our

example above in regard to neuropsychological research into the emotions, we learnt that the generic term “emotion” and the labels for particular emotions such as “love”, “hate”, “fear”, “anger”, “grief”, “anxiety”, “joy”, “excitement”, and the rest, are folk psychological terms. The neuropsychology of emotions is irrevocably stuck with these terms because they represent the emotive states of mind which are so central to our ordinary “macro” lives as humans. Any explanation solely at the micro level of neuronal networks and their synaptic connections and neurotransmitters will not tell us about *human* emotions, about the emotions of those sophisticated social animals called “humans”. They will only tell us in ever increasing sophistication about the neuronal underpinning of human emotions. In fact we also need the strictures of regular experimental psychology for us to fully understand our emotional life. For example, regular experimental psychology can inform us about the deviant emotions or the lack of certain “other regarding” emotions in the lives of psychopaths¹⁷ or about how certain environments involving music, odours and lighting can affect our emotions and so effect how much we might buy in a store.¹⁸ Or it can help us sort out the difference between emotions at the death of our mother and emotions when watching a film about the heart-rending death of a mother.¹⁹

IV

So where are we now in regard to our knowledge of mind? The full spectrum of explanations at each of these levels – the folk psychological, the experimental psychological, and the neuropsychological – produce a genuinely panoramic and informative and useful account of the sources of human action. The aims in regard to research at each level are quite different, and so the results are inevitably different. For the most part they do not compete with one another, such that one account is not better without qualification than another. In certain contexts one

level of explanation will obviously be preferred and so better for that context. But generally speaking we should say that the different levels produce different sorts of explanations for aspects of the same *explanandum*.

But because there are different levels and different types of explanation in regard to mind, it does not follow that the term “mind” is irretrievably ambiguous. Rather the upshot is that mind should be considered to be the core of human psychology which can only be captured by explanations and descriptions at several levels. So we should give up any hunt for *a* mind. Mind is not unitary in the sense that it is a single stuff or a unique property or a special type of discourse or a single anything else. It is unitary only in the sense that at each level of explanation, or for each type of explanation, there is a common “target area”, human psychology, and some common aspects of that “target area”. The terms “internal sources”, “environment” and “behavior” occur unambiguously at each explanatory level. So that the “target area” could also be described as “the internal sources of the operant behaviour of humans occurring in given environments”. This “target area” is what traditionally, in our folk psychology, bears the label “mind” and so, thinking that the word “mind” operates linguistically like the word “body”, we have searched for a unitary ontological *thing* as reference for the word “mind”.

V

One very important thing that emerges from all the above discussions is that it is our folk psychology that still outlines most of what we think of as mind or our mental life and so still outlines in a rough and ready way psychological research at all the different levels. It was, one can say, in our folk psychology that we mapped out the “target area”. So in turn it is most often at least partly in terms of the vocabulary of folk psychology that psychologists ordinarily report about their research and neuropsychologists, at least in

part, seek grants from research-funding sources. The curiosity and consequent enquiries of our folk psychology have set the research agenda long ago, long before the other two methods of enquiry even existed, and most likely folk psychology will play a part in enquiries into mind in the future, if in less dominant fashion. For “mind” is not a natural kind term like “rabbit” or “body” or “gold”, and so it is not something whose definition is to be decided on by some specialist science.²⁰ It is an ordinary language umbrella term under which we gather all the aspects of our mental life that our ancestors have referred to over the millennia of their daily use of our folk psychology and which they think of as causing or at least influencing our behavior. Those items for which we provide shelter under the umbrella term “mind”, can be added to over time. It was not so long ago that “ordinary folk” began to talk about “being in denial” or about “the unconscious” or “drives” or “syndromes” or “obsessions” and much else. In that sense “mind” is an admittedly labile and sometimes vague term yet, it seems, nonetheless useful for that. It just means that we are finding more things in our “target area” as we scrutinize it more closely and more carefully.

In recent decades in philosophy of mind there has been a movement to “naturalize the mind” by which phrase is meant, in one version at least, that we should try and couch our explanations of the nature of mind only in terms of the natural sciences and the more fundamental the natural science the better.²¹ I have been arguing against that view. I do so because I have tried to demonstrate that “mind” is not the label of a “natural kind”, like the labels “rabbit” and “body” and “gold”, where a “natural kind” is neatly circumscribed or at times defined by the identifying rules of some particular natural science like biology or physics. If you crave for a “kind” in relation to “mind”, then the best one can do is to call it, say, an “explanatory kind”, where the term is defined by the “usage” that is forced upon us by the research

findings about mind in philosophy, psychology and the brain sciences. If the result is not and cannot ever be something neat and tidy like “gold is a yellow malleable ductile element with the atomic number 79”, then so be it. The result is, I have been arguing, that the answer to the question “What is mind?” can only be discovered by engaging in psychological research at, at least, three different levels and with three different types of enquiry.²² What is more these researches are ongoing and probably always will be. That’s how it is.

The idea of “a mind” as an ontologically individual identifiable “thing” has been foisted on us historically mainly via Descartes who was influenced heavily by his predecessors, the medieval theologians of “the soul”. I’m arguing for the view that what was isolated by Descartes and his forebears as being the *nature* of a soul (as distinct from a body) – for the most part our human cognitive, appetitive and affective powers – must now be approached in research projects conducted at categorically different ontological levels (at the levels of social *discourse*, of observable *behaviour* and of *brain processing*) and in consequence using different research methods.

The upshot is that there’s not, unfortunately, a one simple “thing” that merits the label “mind” or “psyche” or “soul”. I say “unfortunately” because, if it were otherwise, then researching the nature of minds would be comparatively straightforward, like studying rabbits or mushrooms. Language is partly to blame in all this. It is all too easy to think of the word “mind” as a simple labelling term (and so a referring-to-some-thing term) like “body”, because grammatically (in English at any rate) we often use them both in similar fashion as subjects or objects of actions and events. But to go deeply into that is really the topic of another essay.

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Notes

¹ Freud, of course, is much discussed in many areas, but his lasting influence is almost entirely in psychoanalysis and psychotherapy. Carlo Stenger declares in his introduction that Freud as founder of psychoanalysis was «one of the defining figures of twentieth-century culture» (see C. STENGER, *Freud's Legacy in the Global Era*, Routledge, New York 2016). However he also states in the same place that «psychoanalysis today is a relatively insular movement» and that nowadays «introductory courses in psychology mention Freud [only] in passing». However it has been argued that, despite his endorsing Lamarckian inheritance in evolution, alongside Darwin, Freud was one of the first psycho-biologists. See, for example, F.K. SULLOWAY, *Freud, Biologist of the Mind: Beyond The Psychoanalytic Legend*, Harvard University Press, Cambridge (MA) 1979, II ed. 1992. On the other hand Sulloway also remarks «how totally mistaken Freud was in his general model of the mind» (*ivi*, Introduction to the second edition, p. xiii). Then Paul Ricoeur discovers in Freud a significant contribution to hermeneutics via his work on symbols and the interpretation of dreams (see P. RICOEUR, *Freud and Philosophy: An Essay on Interpretation*, translated by D. SAVAGE, Yale University Press, Yale 1970). Freud, it seems, can be mined for many minerals.

² See M. AMITAL, A. APTER, *Social Aspects of Suicidal Behavior and Prevention in Early Life: A Review*, in: «International Journal of Environmental Research and Public Health», vol. IX, n. 3, 2012, pp. 985-994; S.J. CASH, J.A. BRIDGE, *Epidemiology of Youth Suicide and Suicidal Behavior*, in: «Current Opinion in Pediatrics», vol. XXI, n. 5, 2009, pp. 613-619. In connection with our “self concept” and its health, it is worth mentioning that there is a lot of recent research in regard to people who suffer distress through the dissociation of “hearing voices” in their head. There are a number of theories about why this occurs and how it might be alleviated. The consensus seems to be that one should try to come to terms with the “voices” by associating them with some traumatic

event in the subject’s earlier life. For it is likely that these voices are our own voice trying to come to terms with some traumatic event by “telling a story about it”. Thereby what was dissociated becomes associated. See C. FERNYHOUGH, *The Voices Within*, Profile Books, London 2016. Neuroscientists refer to “the default mode network (DMN)” which is described as a large brain network encompassing a large number of regions. Where it differs from other such networks is in being more or less isolated from them. It is our brain “cogitating” in freelance mode in its free-time – daydreaming, making sense of the past, planning for the future. This is the prime time for the cultivation of our “self concept”. It is notably absent or diminished in people with Autism or Alzheimer’s disorders. See A. HORN, D. OSTWALD, M. REISERT, F. BLANKENBURG, *The Structural-functional Connectome and the Default Mode Network of the Human Brain*, in: «Neuroimage», vol. CII, 2013, pp. 142-151; R.L. BUCKNER, J.R. ANDREWS-HANNA, D.L. SCHACTER, *The Brain’s Default Network: Anatomy, Function, and Relevance to Disease*, in: «Annals of the New York Academy of Sciences», vol. MCXXIV, n. 1, 2008, pp. 1-38.

³ See H.A. ELFENBEIN, N. AMBASY, *Universals and Cultural Differences in Recognizing Emotions*, in: «Current Directions in Psychological Science», vol. XII, n. 5, 2003, pp. 159-164; T. SHIOIRI, T. SOMEYA, D. HELMESTE, S.W. TANG, *Misunderstanding of Facial Expression: A Cross-cultural Study*, in: «Psychiatry and Clinical Neuroscience», vol. LIII, n. 1, 1999, pp. 45-50.

⁴ Miss Marple is a fictional character in the crime novels of Agatha Christie. She is an amateur detective who, because of her superior skills in discovering the perpetrators of crime, is called upon by the detectives of the regular police force for help in solving crimes.

⁵ See W. LYONS, *The Disappearance of Introspection*, MIT Press, Cambridge (MA)/London 1986, pp. 1-16.

⁶ The classical source for “the position effect” is the work of R.E. Nisbett and T.D. Wilson in such papers as R.E. NISBETT, T.D. WILSON, *Telling More than we can Know: Verbal Reports on Mental Processes*, in: «Psychological Review», vol. LXXXIV, n. 3, 1977, pp. 231-259; R.E. NISBETT, T.D. WILSON, *The Halo Effect: Evidence for Unconscious Alteration of Judgments*, in: «Journal of Personality and Social Psychology», vol. XXXV,

n. 4, 1977, pp. 250-256. To make the point clearer I have adapted the original Nisbett and Wilson's "position effect" experiment. Their experiment was in fact carried out by getting passers-by to appraise four actually identical pairs of stockings displayed side by side in a row and to choose the pair they believed was best as regards quality. The results showed a marked preference for the pair furthest to the right. For a more recent discussion of the "position effect" see A. KUHBERGER, C. KOGLER, A. HUG, E. MOSL, *The Role of the Position Effect in Theory and Simulation*, in: «Mind & Language», vol. XXI, n. 5, 2006, pp. 610-625.

⁷ The classical sources are J.M. DARLEY, B. LATANÉ, *Bystander Intervention in Emergencies: Diffusion of Responsibility*, in: «Journal of Personality and Social Psychology», vol. VIII, n. 4, 1968, Pt. 1, pp. 377-383; J.M. DARLEY, B. LATANÉ, *The Unresponsive Bystander: Why doesn't he help?*, Appleton Century Crofts, New York 1970.

⁸ One of the classic sources on subliminal imagery is W.B. KEY, *Subliminal Seduction: Ad Medias' Manipulation of a not so Innocent America*, New Jersey: Prentice-Hall 1976; N.F. DIXON, *Subliminal Perception: The Nature of a Controversy*, McGraw-Hill, New York 1971. More recent studies include the following: Z. YANG, E.M.W. TONG, *The Effects of Subliminal Anger and Sadness Primes on Agency Appraisals*, in: «Emotion», vol. X, n. 6, 2010, pp. 915-922; H. EGERMANN, R. KOPIEZ, C. REUTER, *Is There an Effect of Subliminal Messages in Music on Choice Behavior?*, in: «Journal of Articles in Support of the Null Hypothesis», vol. IV, n. 2, 2007, pp. 29-64; F. SCHLAGHECKEN, M. EIMER, *Subliminal Stimuli can Bias "Free" Choices between Response Alternatives*, in: «Psychonomic Bulletin & Review», vol. XI, n. 3, 2004, pp. 463-468; A.G. GREENWALD, M.R. KLINGER, E.S. SCHUH, *Activation by Marginally Perceptible ("Subliminal") Stimuli: Dissociation of Unconscious From Conscious Cognition*, in: «Journal of Experimental Psychology», vol. CXXIV, n. 1, 1995, pp. 22-42.

⁹ The classical discussion of perception and its "illusions" is in R. GREGORY, *The Intelligent Eye*, Weidenfeld & Nicolson, London 1970.

¹⁰ A good example of the employment of this new vocabulary is in Daniel Dennett's account of introspection (see D.C. DENNETT, *Content and Consciousness*, Routledge & Keegan Paul, London 1969, pp. 40ff.). But see also S.N. THOMAS, *The Formal Mechanics of Mind*, Harvester Press, Has-

socks (UK) 1978, pt. 1, section 5; K.A. ERICSSON, H.A. SIMON, *Verbal Reports as Data*, in: «Psychological Review», vol. LXXXVII, n. 3, 1980, pp. 215-251.

¹¹ See also R.F. BAUMEISTER, *The Cultural Animal: Human Nature, Meaning, and Social Life*, Oxford University Press, Oxford 2005. In this book Baumeister argues that «the conventional view is that nature instilled certain patterns in us, based on narrow contingencies of individual survival and reproduction; then came culture, building on what nature had instilled. The usual arguments revolve around how much latitude culture had to influence behavior, as opposed to attributing most behavior patterns to nature. Instead, I was proposing that culture had influenced nature» (*ivi*, Preface, p. ix.) He also stresses that "culture" is not limited to humans.

¹² See G. WINOCUR, *The Hippocampus and Thalampus: Their Roles in Short- and Long-term Memory and the Effects of Interference*, in: «Behavioural Brain Research», vol. XVI, n. 2-3, 1985, pp. 135-152.

¹³ See R.M. LAMBON, C. LOWE, T.T. ROGERS, *Neural Basis of Category-specific Semantic Deficit for Living Things: Evidence from Semantic Dementia, HSVE, and a Neural Network Model*, in: «Brain», vol. CXXX, Pt. 4, 2007, pp. 1127-1137.

¹⁴ See W. JAMES, *What is an Emotion?*, in: «Mind», vol. IX, n. 34, 1884, pp. 188-205; W. JAMES, *Discussion: The Physical Basis of Emotion*, in: «Psychological Review», vol. I, n. 5, 1894, pp. 516-529; P.C. ELLSWORTH, *William James and Emotion: Is a Century of Fame Worth a Century of Misunderstanding?*, in: «Psychological Review», vol. CI, n. 2, 1994, pp. 222-229.

¹⁵ See K.A. LINDQUIST, T.D. WAGER, H. KOBER, E. BLISS-MOREAU, L. FELDMANN BARRETT, *The Brain Basis of Emotion: A Meta-analysis Review*, in: «Behavioral and Brain Sciences», vol. XXXV, n. 3, 2012, pp. 121-143, here p. 121. See also K.A. LINDQUIST, L. FELDMAN BARRETT, *A Functional Architecture of the Human Brain: Emerging Insights from the Science of Emotion*, in: «Trends in Cognitive Sciences», vol. XVI, n. 11, 2012, pp. 533-540; M.L. PHILLIPS, W.C. DREVETS, S.L. RAUCH, R. LANE, *Neurobiology of Emotion Perception I: The Neural Basis of Normal Emotion Perception*, in: «Biological Psychiatry», vol. LIV, n. 5, 2003, pp. 504-514.

¹⁶ See S.A. BANDES, *Remorse and Criminal Justice*, in: «Emotion», vol. VIII, n. 1, 2016, pp. 14-19; S.A. BANDES, *Evaluation of Remorse is Here to*

Stay: We Should Focus on Improving its Dynamics, in: P.H. ROBINSON, S.P. GARVEY, K.K. FERZAN (eds.), *Criminal Law Conversations*, Oxford University Press, Oxford 2009, pp. 198-199.

¹⁷See J.R. BLAIR, *Psychopathy: Cognitive and Neural Dysfunction*, in: «Dialogues in Clinical Neuroscience», vol. XV, n. 2, 2013, pp. 181-190; J. BLAIR, D. MITCHELL, K. BLAIR, *The Psychopath: Emotion and the Brain*, Wiley-Blackwell, Cambridge (MA)/Oxford/Carlton, 2005, pp. 1-216.

¹⁸See R.J. DONOVAN, J.R. ROSSITER, G. MARCOOLYN, A. NESDALE, *Store Atmosphere and Purchasing Behavior*, in: «Journal of Retailing», vol. LXX, n. 3, 1994, pp. 283-294.

¹⁹See P.J. SILVIA, *Looking Past Pleasure: Anger, Confusion, Disgust, Pride, Surprise, and Other Unusual Aesthetic Emotions*, in: «Psychology of Aesthetics, Creativity, and the Arts», vol. III, n. 1, 2009, pp. 48-51; R. POUIVET, *On the Cognitive Functioning of Aesthetic Emotions*, in: «Leonardo», vol. XXXIII, n. 1, 2000, pp. 49-53.

²⁰ See W.V.O. QUINE, *Natural Kinds*, in: W.V.O. QUINE, *Ontological Relativity and Other Essays*, Columbia University Press, New York 1969, pp. 114-138; I. HACKING, *A Tradition of Natural Kinds*, in: «Philosophical Studies», vol. LXI, n. 1-2, 1991, pp. 109-126. Of course one could distinguish many "kinds of kinds", for example: *Geological Kinds* (things which have distinguishable macro inanimate physical features produced by evolution and which are designated by mass terms, e.g. mountains, plains, rivers); *Biological Kinds* (things which have distinguishable macro biological features produced by evolution and which are designated by sortal terms, e.g. sheep, frogs, dogs); *Conceptual Kinds* (groups of natural things or natural properties which are distinguished as groups by means of human conceptual schemes and so designated by descriptive terms. E.g. stormy weather, heavy seas, happy faces); *Conventional Kinds* (human generated features placed over nature for pragmatic purposes such that its terms are now taken as "technical" or

"quasi-technical", e.g. lines of longitude and latitude, signs of the zodiac); *Artificial Kinds* (things which are not supervenient upon nature but generated by human art or artifice – e.g. Argonauts, cybernauts).

²¹ The classic sources are probably W.V.O. QUINE, *On What There Is*, in: W.V.O. QUINE, *From a Logical Point of View*, Harvard University Press, Cambridge (MA) 1964, pp. 1-19 – II ed.; D. ARMSTRONG, *Naturalism, Materialism and First Philosophy*, in: «Philosophia», vol. VIII, 2-3, 1978, pp. 261-276; D. PAPINEAU, *Précis of Philosophical Naturalism*, in: «Philosophy and Phenomenological Research», vol. LVI, n. 3, 1996, pp. 657-665; S. STICH, *Deconstructing the Mind*, Oxford University Press, Oxford 1996.

²² Marvin Minsky, of course, used the now famous phrase "the society of mind" a long time ago, but he used it to mean something quite different from what concerned me, namely the need to acknowledge that there are different types or levels of research into the human mind, all of which are valid and add to our knowledge of mind. He was referring to his thesis in neuropsychology where the phrase "the society of mind" describes how the higher "intelligent" operations of the human brain are brought about more or less entirely through the "cooperation" of basic "unintelligent" brain systems. See his classic work, M.L. MINSKY, *The Society of Mind*, Simon & Schuster, New York 1986; S.R. KIRSCHNER, *Psychology and Pluralism: Toward the Psychological Studies*, in: «Journal of Theoretical and Philosophical Psychology», vol. XXVI, n. 1-2, 2006, pp. 1-176, seems closer to my view. Her thesis is that one should not look for a "unified theory" in psychology but be prepared to accept "multiple theoretical lenses". This may not be too far away from my concern with accepting, as both viable and essential, multiple research enterprises in psychology which are conducted at quite different levels, and with rejecting the idea that there is some unitary thing called "the mind".