THE PRIORITY OF QUALITATIVE TO QUANTITATIVE RESEARCH: A PHILOSOPHICAL APPROACH

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This paper argues against the still lingering bias towards the superiority of quantitative method in social science, and for the idea that the mainstream view, that both qualitative and quantitative research methods are mutually complementary, is basically correct. But it argues further for the ultimate foundational status of qualitative approaches. Apprehending a qualitative relation is more likely to be a final or ultimate end of cognitive acts of investigation, by and about persons, than precisely how much of the relevant human quality (e.g. irony or humour) there is present, especially where it makes little or no sense to ask the latter question.

Qualitative concepts, predicates and methods of research are ultimately foundational for all natural and social science, in that they are ultimately necessary for speakers to identify, describe and discuss all subjects of discourse, including physical objects and processes; and to apply any results of natural science, initially conducted in quantitative procedures, to practice. Quantitative reports will always make some at least implicit reference to dispositions to produce qualia and qualities of any quantitatively described objects.'

Philosophical existentialism (Buber), in a teleological firm, and correlative teleological dualisms, will have the final say in the paper. They feature qualia of individual personal experience, both sensory and psychological, as basic entities in folk anthropology descriptions of human activity; and describe and explain individuality of persons better than the mainstream universalism descended from Aristotle, which accepts but does not sufficiently privilege qualitative method; and teleological existentialism sets limits to quantification applied to psychological data.

I. Introduction

It is not uncommon to find people with a strong preference for quantitative research over qualitative research, based on the ground that the former is more rigorous, scientific, and objective. Some journals in Psychology and Sociology were known not to accept qualitative research. Much of this division dates back at least to 1950's and Behaviourism associated with B. F. Skinner, together with A.J. Ayer's logical positivism. The behaviourist school favoured the rejection of the idea of an inner agent-self, and of introspection as an investigative method, in favour of verifiable, measurable, observable "behavioural events."[i] Some writers who do not agree with behaviourism nevertheless think that only law-like statements of the quantitative or numerical type permit probabilistic scientific explanation of individuals and cases. All research results must be experimentally replicable and generalisable, not anecdotal. Inductive enumeration allegedly favour1338s a quantitative approach at least in that way. 'The meaning of a proposition is its method of verification."

On the other hand,the quoted sententence cannot be empirically verified, and so is meaningless.Some hold rightly that at least in social sciences, persons being unique in many ways, laws are hard to come by, and quantitative approaches must be tested against individual cases involving persons and the qualities of individuals. Persons in this social context are "that for the sake of which" all quantitative studies are ultimately undertaken. The late philosopher Roderick Chisholm took the view that only qualitative properties, in a technical sense of his own, are true of thinking subjects.[ii] Popper and Eccles in *The Self and its Brain,* posit a 3-World model of knowledge of reality in which propositions and scientific theories/laws in books (world 3) exist alongside the world of subjective experiences of selves/persons and personal knowledge (world 2) , and the world of physical objects,(world 3).Many of the entities posited in knowing within the first two worlds are not quantifiable, as those in the physical universe or World 1, are. Wholly quantitative accounts are not possible for persons, or propositions, but only objects. [iii]

The project of the paper is to accept what is here dubbed the mainstream view, but build a qualification into it about research on persons. It rejects several similar but different alternative views from which it needs to be distinguished: i) ultimate or deep scepticism with respect to the effectiveness and complementarity of both quantitative and qualitative approaches, not confined to just some reservations about the superiority of qualitative approaches for some personal topics; ii) Marxist rejections of qualitative categories of capitalist social science as determined by the quantitatively measurable economic base; iii) the logical positivist theoretical presumption of universal quantitative empirical approaches, found in behaviourist and materialist theories of mind, including strictly materialist versions of personal identity/individuation . The latter entail some correlative alleged scientifically based "hard determinist"

views of human nature. Such materialist views pay insufficient attention to the role of intentionality in establishing individuality/idiosyncrasy, and fail to explicate and explain personal relations. There is no space here to set out these alternatives and argue against them. But it may be useful to announce at the start that prioritising qualitative over quantitative methods while accepting their complementarity is quite different from these three positions, all of which have been well occupied and challenged throughout history.

We will not solve the metaphysical mind-body problem here either. But it will be argued that, while complementary, there is a sense in which the two research methods are indeed in tension when applied to some topics. This tension turns on wider substantial psychological, philosophical and theological matters.These concern differences in epistemology between universalists/essentialists and particularists; and differences with respect to the reference of some concepts between theists and atheists, especially theistic existentialists. I will outline these tensions presently. Where both research methods are relevant, the methods themselves are complementary. There are however some research areas where qualitative cognition is preferable, and perhaps the only one possible, as Buber suggests. Theistic existentialists, and defenders of free–will hold that there are some qualities and qualitative relations which resist quantification. Some of the most important terms and relations necessary for describing interpersonal encounters of human interest, such as intimacy, cannot be defined in extensional, recursive or quantitative terms at all and only imperfectly in terms of qualitative universals.

Some initial un-theorised intuitions about the difference between qualitative and quantitative research follow. Quantitative and qualitative research are potentially distinguishable as focused respectively on or seeking:

- generalised, universal laws, categorical or probabilistic, about whole populations, as opposed to, descriptions of specific or particular context-bound cases;
- methods suitable to the theoretical study of observable natural events, objects of natural sciences and mass social preference trends, versus study of tracts of individual or group practical reasoning, involving intentionality by voluntary agents in social contexts (persons with intentions and beliefs);
- nomological/explanatory accounts using the quantifiers "all", "no" , and "some", governing entities connoted by count nouns, like "tree" or "rabbit", and phrases like "piece/lump of", and material implication, versus descriptive, anecdotal accounts in assertions about how "this", "here", "now" looks and feels;
- studies of relations between entities with determinate sense and magnitude, like weight, versus those with indeterminate sense, or no precise magnitude e.g. dread or anxiety;
- studies of relations appropriate to extensional properties and direct speech contexts versus intentional properties and oblique of indirect contexts.

The last two points might be expressed by saying: quantitative method at least potentially involves the use of recursive functions or predicates, those with definite, decidable values for the function or relational predicate concerned, and qualitative research methods use these recursive functions only contingently, ex post, to code and analyse qualitative data using software. Sometimes quantitative data is indeed not very illuminating in social science, except as surveys of actual qualities or properties of groups of persons like beliefs, attitudes, grounding probable predictions of preferences. Some protagonists of quantification are accused of trying to settle conceptual matters by appeal to empirical data, dressing up analytic conceptual connections and truisms as "objective' scientific discovery in Psychology or Sociology, or of not justifying the link between the meanings stipulated for the variables in their psychological and sociological "laws" on the one hand, and those of ordinary concepts.[iv]

The fact that the above distinctions cut across each other immediately shows one how easily one can become confused about this issue. Something can be indeterminate in its meaning (intension or connotation) yet subject to true universal generalization (quantity), or have an intensive magnitude (be subject to statements of greater or less degree, like pleasure or warmth, but not by reference to a common unit or some metric [v]) yet be the subject of purported natural science explanations; a proposition of the form: " S is P" can be a wholly extensional true proposition, but embedded in an intentional context like "believes" or "wishes", and this changes its truth value. Already in these five intuitive first passes at a definition, we have mention of the following concepts: *intension,* (meaning); *intensive magnitude* (subjectively asserted degree of pain etc), *intention* (of persons) to act; *intentionality* (directedness on an object of psychological states), and *intentional contexts* (reference opaqueness, described below).But the complexity being acknowledged, I would claim that all five meanings are qualitative, not quantitative, concepts.

Conceptual History: Aristotle as a Source of these Complexities.

The confusing of the above cross-cutting distinctions can be explained partly by their common Aristotelian ancestry. Aristotle moves easily between natural science and philosophical anthropology, ethics and politics; meaning and metaphysics; theory and practice. If we pass over Plato's metaphysics here, on the ground that though foundational, it was insufficiently systematic, then one can plausibly argue that Aristotle sketched the first systematic logic and first ontology –the theory of being, or of what exists. He also sketched the first psychology/anthropology; and the first metaphysics and "correspondence" theory of meaning or connotation (sense) and truth or denotation (reference). He builds his theory of predication around what we mean when we say of a person, e.g. Socrates, that he exists, is man, is wise, sad, snub-nosed, was friend to Plato, had a mother, etc.

Because it was foundational, Aristotle's account of being, meaning and truth is set out very summarily under 8 heads. It lays down the keel of what will be called the essentialist or universalist "mainstream" view, as I will dub it. In treating quality and quantity as largely complementary, it is basically sound, but I will argue at the end of the paper that it can and should accept its own limits, its implicit non-materialism, and co-opt some insights of its existentialist critics.

1. *Aristotle's Ontology: What Sort of Thing Exists*

For Aristotle, what exists "primarily" are individuals with independent, unitary, "primary" substance, a "nature" with a principle of inner motion or characteristic set of capacities /tendencies or nature, informing a body with individuating material properties. For example, if anything is an existent, we humans are paradigmatic existents, although for Aristotle we are not the only or highest beings. Individual human beings are however taken to be paradigmatic, exemplary existing prime substances with a nature, along with living things like animals and plants, and the highest being, the Unmoved Mover, or as theists might now say, God. The elements, making up material things, including human bodies, also exist, as the individuating material causes of persons (see Analogy of Attribution below point 5).But material entities alone are not prime substances.

Probably Aristotle would now have added as existents, yet not prime substances, things we can talk about as agents, things with properties, and real entities such as DNA, cells, dark matter, gravitational forces, entities of quantum mechanics and sub-atomic nano-particles, ultra–sounds, X-Rays etc. Anything we can identify and re-identify by ascribing qualia, and anything having an identifiable, complex internal structure or inherent powers to act independently in some resect, as a whole unit even over a short time, he would probably have counted as both a quasi-substance and a being, at least in a transferred or analogous sense. But what this would now include is very difficult to say (nanos, quarks, mu-mesons, strings, protons, electrons etc).

In this sketchy Neo-Aristotelian rational reconstruction, I think we can infer that for Aristotle, necessity and possibility are connected to identity and existence through time. Eternal beings are necessary. We can probably add: anything of which a definite description is true exists. Two individuals with all the same properties are identical, and existents. [vi] And perhaps we attribute to him the possible non-existence of anything except a Necessary Being. There are certainly contingent beings- individual beings which can possibly not exist. [vii] And for him the planets' unmoved movents were necessary.

2. *Propositions and Predication in Categories*

According to Aristotle, the things we say of any prime existent or substance can be grouped into *categories*. The attributes which are predicable of a subject in a proposition are broadly of about eight types:

1. Substance "- is a human".
2. Quality   "is snub-nosed", "wise", "hoping for rain' or "feeling hot".
3. Quantity   'is 5ft 5inches high', "is 70 kilos', 'has a temperature of n degrees'
4. Relation   " is husband of Xanthippe"
5. Time   "on Monday in March in 350 B.C."
6. Place   "in Athens"
7. Action   "is running", "thinking about rain"
8. Passion   'is forced to drink/ succumbing to hemlock"

As point 1 indicated, Socrates is an individual prime substance with a nature. He is an exemplary existent or being in a place, with some determinate properties persisting for a time. His humanity is both real, qua instanced in him individually, and an essence composed of types of quality in relation- rational and animal-and an abstract concept of that essence – of a duplicable "secondary substance" of humanity.[viii] Quantity and quality, 2 and 3, exist as non-substances in their own category, but as entities or beings of reason in abstract, duplicable,; and also possibly in concrete unique forms, ways or senses, in different orders of consideration. The abstract properties of the type are

jointly attributed, in cases of successful reference, to the concrete individual instance or token of the type, in which token the properties are concretely instantiated. Within 2-8, the same distinction of abstract secondary type and primary particular instance or token can be made. Note that in this ontology, quantities and qualities are different aspects of one entity. Most of these categories are distinguished even today and appear with slight alteration in Aquinas, Kant, and as we shall later see in Searle.Qualities can be said too be "more or less" present and have degrees without a physical metric.

3. *Categories, Accidents, and Circumstances*

Substances, primary and secondary, with natures, have essential and accidental properties; the first they cannot lose and continue be the entity they are e.g. in the human case, some capacity for consciousness; the second can be shed without loss of identity, e.g. in the human case, a particular facial expression. [ix] Substances, as existent entities "stand" metaphorically "surrounded" by circumstances (circum-stare), elicited by the questions Who/To or with whom? What/of what sort? Where? When? Why? and How?/How much?" These questions map loosely on to the doctrine of substance and categories in point 2 above, e.g. Who/To whom? maps roughly on to substance/action and passion; when? maps easily on to time; where? maps on to place; how? on to action/passion and relation; how much? to quantity; and what? again broadly, maps on to quality and substance. [x]

By analogy of attribution (see point 5 below) , circumstances can be identified in the context of assessing "act-types", which can be taken as quasi-substances, i.e. as the nuclear entity describing existents in the category of action (category 7 above), and so importantly determine ethical judgements as whether the act–type or instance is good/bad, right, wrong or indifferent. The answer to "why" in the case of judging about right /virtuous action is judged on the basis of its tendency to produce perceived wellbeing. (It is assumed that a wish exists in all persons for human wellbeing). Determining what action is done in a type of circumstance may be mentioned in a rule, e.g."Killing" is the nuclear act embedded in "murder", which is deliberate, (how) and done to an innocent person (to whom). Where, as is often the case, there is no rule to hand, circumstances are considered by a person deciding on an action in a new particular case, using casuistry- the name later given to the assessing of ethical actions in circumstances according to intent and motive.

4. *Factual knowledge is ideally of the theoretically attested truth, and of the universal and essential, or its demonstrable syllogistic implications.*

Aristotle accepts the idea that truth corresponds to, or is ideally about, what exists. It attaches to definitions of essences like 'humanity' and to "propositions", not single objects or their names. The Stoics develop the logic of the propositional calculus from Aristotle's syllogistic. Propositions are ideally determinate, single or general, and knowledge is belief backed by a rational account/evidence. Determinacy means, roughly, decidability in terms of truth conditions[xi] He recognises simple apprehension of a concept or individual thing, but takes over Plato's idea that demonstrative knowledge is attained when at least informal definition can be given of the relevant universal notions, using induction and so universal laws can be stated and applied truly, and eventually formal definition of the essence given. But he did not take over the Platonic idea of a univocal Form of Being, exemplified in or participated by all contingent beings.

5. *Analogy of Attribution*

"Health(y)" refers to a state of the body primarily and secondarily to medicine, exercise, urine, complexions, and diets. The latter are not literally healthy but healthy analogously, qua causes, capacities for, symptoms, signs or effects of health. So too "being" for Aristotle is attributed analogically. It ranges over many kinds of being, on a supposed *scala naturae*. The chain of being runs from God to the elements via incorporeal substances, humans, animals, and plants, minerals, etc. As an analogical term it is attributed to and refers primarily to the highest beings, God and reason, and analogically to these other entities. The theory of analogy of attribution means that 'being" is predicable in all the categories. All entities in categories 1-8 above exist in some sense. (Metaphysics 1003a, 32-1003b24; Nicomachan Ethics 1096a,10-30).

6. *Intentional, or Mental, Existence, and "Referential Opacity*".

As point 1 above suggested, the primary referent of exists is an existent substance with a nature or essence, defined by its characteristic properties. But the concepts in categories 1-8, including quality and quantity, can have both real existence as individualised referents of the term in question in substances, and intentional or "mental existence" in the minds of the human personal substances which are the users of the concept. Intentional states are directed at, of or about something e.g fear is fear of a perceived danger and believe is belief in something .Our idiosyncratic

constellation of beliefs, memories, and desires, habits, and our cultural, contextual histories also play a part in our personal individual identity. Mental existence, "directedness on an object", and the possibility of so called "referential opacity" are all cited by modern authors as marks of the intentional and psychological. Psychological properties, like being a friend or friendship, are often intentional in the further technical sense of having possible "referential opacity'. If a term is embedded in an intentional context like "A believes that S is P" or A wishes that S is P", then the inference rules applicable in extensional context will not apply to the whole sentence. The truth of these complex propositions will not entail that S exists or has the property P.

But beliefs and intentions still have assignable reference and truth conditions, and are still "beings" or entities, by analogy of attribution. They have intentional or mental existences in Aristotle's language. Physical properties are more determinate and measurable, capable of entering into extensional contexts and inferences. But they are in some ways, e.g. ethically, less interesting and important than our intentions, beliefs and desires.

7. *Assumed Background in Practical Applications of Reason*

In Neo-Aristotelian philosophy, all existing prime substances, and theoretical law-like assertion about them, have a background context, and this contributes to establishing meaning. In any set of circumstances, there are assumed background conditions of normality, explicit or implicit, when assertions are made. There is some assumed "ideal of natural order" (Taylor 1964) not requiring explanation. Some of own Aristotle's tacit assumptions in this regard were in key ways different wrong, and differ from Newton's and Einstein's (eg regarding natural motion) but many are the same e.g. we assume the sun will appear to cross the sky in a certain direction, or our chairs will not suddenly disappear or turn into butter. Even natural sciences seeking specific laws of the form All Fs are G or If F then G or Fs tend to G have the implicit *ceteris paribus* clauses like "under normal conditions" "unless interferences in the range R occur". In the social sciences, which study practical reasoning applications, the laws are much more easily defeasible, because desires or ends can change and be satisfied in multiple ways, so practical reasoning is informal. The travel agent's prudent plan for our trip can depend on scientific fact but be upset by changes in our desire or the weather. The use of casuistry, applied to circumstances as mentioned in point 3 above, is often needed in practical reasoning contexts.

8. *Final Causes as Architectonic in one Respect, and Mutually Dependent in Another.*

Aristotle often asks of an entity: what is the end of this sort of entity? What is it for? If E is "that for the sake of which" M exists, then E is architectonic in respect of M- its organising principle. E will depend on M in some respect, yet govern it as ultimate end. Horse riding governs bride making, but depends on it; architecture governs bricklaying, conversation governs speech acts but depends on them. Grammar is for the sake of sense making and speech, but conversations depend on it. In states and organisations, subordinate roles and incumbents are for the sake of the work to be done, but indispensable to it. Architectonic relations link the highest goods and ethics; ethics and politics; politics and organisations. We eat to live, know, and love, but eat we must.

DISCUSSION

Where does all this leave the quantity/qualitative distinction? In Aristotle, they are both categories at level 2. But cognition itself, and the propositions mentioned in point 2, and intentionality at point 6 above, are all treated as partly immaterial, and presumably non-quantifiable. Cognitive content respecting concepts is derived by perception from matter, via abstraction by the agent intellect, to the passive intellect and imagination. As point 2 above suggests, quantities, outside of abstract mathematics, are most often potential or actual *quantities of some real substance, quality, or other property*. Things which really exist in the world, including individualized properties like quantities and qualities, are the reference or denotation of the substantival terms (like common nouns) which enter into definitions for secondary substances, like "humanity", "gold", or the connotations of the predicables in the categories. For example, one individualised qualitative and relational property in Socrates's life, which appears in his biography, was the fact that he was Plato's friend, because in fact "being the friend of Plato" is historically true of Socrates. Loosely quantifiable qualities like "snub–nosed-ness", or other face shapes, finger prints, height, blood cells, and what we now know to be DNA, all help to individuate persons, like Socrates' snub nose; but not to the exclusion of qualitative psychological properties (point 6).

For Neo-Aristotelians, quantifiable proxy terms or criteria for qualities can be stipulated for use in quantitative and qualitative research, defining terms by reference to overt behaviours, which will be taken to show the presence of the quality to be quantified. But they are not proper definitions of the relevant qualities. Some intentional psychological qualities, including intensive magnitudes like "pleasant," cannot be so easily quantified; some cannot be measured as to degree of strength; and some "love" are thought to be non-quantified or best not measured at all, lest they become "commodified" as means, potentially for sale, rather than final or ultimate ends (point 8). For Aristotle himself, there is otherwise no further room for any sharp or sweeping divide between quantity and quality in any of this talk. There are several reasons to think he is too complacent about the complementarity of quantity and quality. But first let us take a look at the broader philosophical scene since Aristotle.

The Present State of Play

History suggests that in the mainstream account, typified by the philosophies of Aristotle, Aquinas, Descartes, Kant, Hegel, Frege, Husserl, and Searle, quantity and quality are complementary. Quality is given some prominence through the phenomenon of intentionality, necessary to discuss the meaning of terms and other psychological phenomena. This view is strongest in mind-body Dualism such as Descartes', which holds mind and body are different substances.

But we said above that there are several philosophical approaches to the quantity/quality issues: i) mainstream essentialism or universalism, (quantity and quality complementary); ii) theistic and human transcendental existentialism (universal qualities and quantitative description are both inadequate to account for individuality of humans, and quantitative discourse is especially impotent to describe quality in the highest goods (Scotus, Kierkegaard and Buber)). These two accounts are contradicted by iii)Marxist and atheistic forms of existentialism such as Nietzsche and Sartre. Neo- Marxists say that "laws" describing and linking both qualities and quantities are deeply suspect socio-ethically because the consciousness of class is a product of economic forces at the base ; and iv) Mind-Body identity theory-strong materialism say that only quantitative method is useful. Materialism, in the form of hard determinism, denying an autonomous self,or real choice, cannot be digested by the first two. Theistic transcendence is rejected Marxism and materialism of mind. The mainstream view is more compatible with theistic existentialism, but not entirely as I will explain.

The contemporary scene is dominated by some version of the Materialist Theory of Mind, as in Dennett, and/or behaviourism, such as that of Skinner. Why does Skinner have such lasting influence, and why do his contemporary counterparts in cognitive science and artificial intelligence, continue to enjoy such influence? Why does the quantitative/qualitative distinction still provoke debate? I believe the answer to be that a great many philosophers and scientists are today still positivists and theological sceptics or agnostics with regard to the mind-body debate. They are still children of the 1950's, denying the potential for Anglo-EU dialogue promoted by Tayor and Chisholm, the indispensable relevance in philosophy of the agent self, and holding on to the identity thesis in some stronger determinist form, rather than following Taylor, Swinburne, or Eccles-Popper[xii] in holding for the ultimate reality of free choice. But as the collection by Gocke shows (2012) the case against Dualism in the mind-body debate is not quite closed yet. As we saw, to take just one problem, the prospects of reductive analysis of psychological phenomena like intentions to behaviours or description capable of extensional analysis is apparently blocked by the architectonic structure of speech acts, where meaning is imposed top-down by speakers on the phonetic, syntactic,

and semantic base, not vice versa, [xiiixiv] and by referential opaqueness: A believes that S is P does not entail S is P or vice versa. Dreyfus has offered some other serious objections to the materialist-reductivist project. But plausible solutions are offered in great numbers and depth, (Dretske, Dennett, Dawkins) and this difficulty will not deter serious physicalists. The rise of reductive materialism, especially the materialist theory of mind, cognitive science, and AI, has apparently given some new impetus and warrant to the idea of reduction.

The quality/quantity issue which does seem to emerge can be put bluntly in the form: If everything is material, explicable in terms of physical events in a closed system, can everything be quantified? If so, all qualitative description and act descriptions involving a rational choosing self, can be replaced albeit with great tedium, with quantitative descriptions. Qualitative description belongs to a bygone era, and will eventually be recognised as a replaceable, intervening variable. To answer this position would take another paper, and I have tried to do so elsewhere. I believe it faces several strong objections indicated there.[xv]

But let us now look at Searle's bridging , intermediate, non-dualist, non-monist account.

Speech Act Theory

Searle's "metaphysically minimal" "Speech Act Theory" (SAT) does not bill itself as a metaphysics. But he describes himself as a biological naturalist who expects physiology to eventually explain psychology. Yet he strongly endorses the idea of an agent self being indispensable to describe and explain human acts. It is an important example of the fruits of the resumption of Anglo-EU dialogue with mainstream universalism. Despite his realisation of its metaphysical implications, Searle says he finds it necessary to recognise a self, (Searle says "reluctantly") and necessary to distinguish all the same notions and categories which we have canvassed above- notions such necessity, the causality relation, quality, and quantity. Notions such as that of an agent self and the idea of the truth, what we say about the world, and the world itself are distinguished as before. SAT assumes that causality and time exist and are anisotropic, (one way); and it distinguishes logically claims about one, many, and none. Some of these notions cannot be explained purely in quantitative terms. Necessity requires some postulates to be laid down about presumed ideals of natural order and the quality or category of possibility; number requires discussion of the qualitative ancestor/successor relation, and causality of transitivity. Speech act Theory distinguishes the "conditions of satisfaction" of various speech acts imperatives, assertions, questions, promises, exclamations etc and what Searle calls their "imposition" by the agent self, as illustrated below. In some cases the imposition causes action. He uses the same notions of a correspondence relation, causal direction, and modality that Aristotle began with. There is a doctrine of "direction of fit between world and word", and of agent causality through imposition of imperative demands.

For example: take the utterance "It is the case that: the cat is on the mat". For this assertion to be true the world being a certain way as specified in the propositional content, (eg the cat being on the mat), determines the truth here. The direction of fit is word to world, and world sets the standard or "decides". In the case of "Put: the cat on the mat!" this asks an agent to cause the cat to be on the mat. The command maker's will and the propositional content or phrastic determines how the world is to be changed if the command is obeyed. The direction of fit is world to word and the commander's word sets the standard. Other speech acts than assertion and command, each with its own directions of causality and fit, might contain the sentences:

> Is: the cat on the mat?
> I wish: the cat were on the mat
> I hereby place; the cat on the mat
> I promise to put: the cat on the mat
> Necessarily/possibly/probably: the cat is on the mat
> Wow! The cat is on the mat!

The core idea of "the cat being on the mat" is called the phrastic; the preceding phrases are operators indicating the conditions of satisfaction of the relevant speech act. Quantification will always be over some individuals with properties or relations, expressed conceptually within the phrastic, determinate/ physical/quantitative , or not. Here again there is nothing in Speech Act theory to warrant a divide between quality and quantity, or to dispense with the non-quantitative. Both would be equally part of the content of the phrastic with the same conditions of satisfaction capable of being imposed by the speaker. The ideas of direction of fit and direction of causality (eg in an assertion fit is word to world; causal direction is world to word) , do much of the work of 'Categories' of the sort Aristotle, Kant and Hegel discuss eg substance causality, number, quality, relation.

In short, in Speech Act Theory we have a sophisticated metaphysics in the form of a theory of reference and semantics. (Searle *Rationality in Action*). There is a doctrine of causality according to which in perception and

memory, the world causes states of the subject; in imperatives, the mental state causes changes in the world. Free-choice is real even if Searle thinks it will have a materialist explanation eventually. Qualitative concepts are necessary for all language and practical activity including science They are ineliminable.

Searle's Speech Act Theory

WORLD		WORD		
What (the World) is eg Stars/dark matter Brains/minds/speech acts* Atoms Nanos The natural order	D I R E C T I O N O F	Meaning/sense/intension What we can signify with or what has (meaning) eg English **language**	Speech Acts What we **can say in language** (Indicated by Operator) (conditions of satisfaction set out in language)	Further acts: What we in particular **do with words** (in speaking)eg saying "I do" in context can be marrying
Substances, properties , and accidents Actions Time Relations Circumstances	F I T A N D C A U S A L I T Y	Concepts – dictionary or encyclopaedia 'Propositional contents' or 'phrastic'/'properties' of the form "that S is P' Operators/quantifiers eg It is the case that (all) S is P. Make it to be the case that S is P	It is the case that …(assertion/reference) Make it the case … that (command/satisfaction) Is it the case that?(question) Wow! (exclamation) … I promise …	Impose 'Speaker' meaning (intention) on pre-conditions of satisfaction of the sentence in a **further context** (set of circumstances)

Adapted from Searle *Intentionality* 1984Cambridge University Press

Direction of fit is determined by the speaker use of the operators in the third column; direction of causality by whether we have a command, assertion etc. For example, the word(s) must fit theworld in the assertions.World must fit wish and commands to e satisfactory in imperatives.In intentional act formation the intention part-causes the act. In cognition the world causes the word to be true or false. So there is a tradition running from Aristotle to Searle which sees both quality and quantity as equally important in science, and they are both believers in freedom of choice by the self. Even if Searle thinks there will someday be a material scientific explanation, he admits we are not there yet and it will not be explaining minds or free choice away. But there are still problems for the mainstream view.

The first is that if matter were the only principle of individuation of instances of an essence, then in human essences, matter would be what individuates an individual soul or person. But we said in point 6 above that, for Aristotle, psychological properties are also needed, so his anthropological account is implicitly dualist, whether Arisotle says so or not. Physical objects are defined in relation to possible repeated observations of a psychological nature by a person , and by then subtracting the acquisition process, imagining the pure object as unobserved. Aquinas says Aristotle is a dualist on the basis that Aristotle believed in an individualised immaterial agent intellect,

but that is very hard to prove given the mediaeval Arab debate over the issue, between Averroes. Al Gazzali, Avicenna and Muslim scripture scholars. It would not really settle the individuality problem. We still need a fuller account of such individuation of the soul.

Aquinas does offer one, suggesting there is an individual *actus essendi,* given by God, and he spells out a metaphysic argument for creation of all being by God to supplement Aristotle. As Scotus plausibly argued, the problem of human individuality requires something like positing a *species specialissima* and *haeceitas* for each person, created by God if necessary. So there is a case for a creator God conferring individual being on each person, a notion quite foreign to Aristotle. Thus whether or not we go into the theistic debate, there are problems for the mainstream Neo-Aristotelian view, raised by some of the counter traditions for the mainstream. For both non-theists and many theists there is a problem of personal identity or individuality, going back to Aristotle's notion of essential substance and scientific demonstration, but aggravated by Neo-Platonic theology especially the Judeo-Christian-Islamic creation ex nihilo variants. It is at the heart of Kierkegaard's Existentialism and restless Dostoevski's "underground man". As the existentialist-theist Buber puts it, the world is twofold for man: we live in two worlds at once, the I–It and I-Thou.

The differences are suggested in the chart below. If Buber is right, this distinction suggests that there may indeed be a sense in which existentialism has a decisive point against the mainstream universalist tradition. Quantification belongs with studies of phenomena on the left side of the ledger in the diagram below, i.e with the study if objective I –IT relations, but is less helpful for the more important and final or ultimate, subjective I-Thou relationships. Perhaps quantitative research has the left side of the chart as its proper domain, and the left hand domain is indispensably necessary for the welfare of the right hand domain, but the latter is its final end.(Recall Aristotle on architectonic relations, point 8).

The left side is indispensably necessary for the operation of the right hand domain, *but the latter is its architectonic final end. On this account, quantitative methods of attaining knowledge should not be completely or solely relied on to research the more important matters on the right because there are realities (e.g God, the individual Soul, justice, love etc) which go beyond the compass of quantification and measurement as a category. On this view, qualitative research comes out as preferable in finality terms, although dependent on quantitative phenomena and so its research in the way Aristotle suggested.* If Buber is accepted, qualitative analysis of entities posited in qualitative research and discourse, non-quantitative entities, will emerge as ultimately the most important objects of knowledge.

The two are still complementary, but qualitative has an edge.Quantitaive proxies for quality in qualitative research tools, such as counted word occurrences in a transcript to map degeree of interest in the relevant concept are pretty useless without a qualitative hypopethis to guide the research regarding relevance and meaning.Meanings are not like apples.Qualitative approaches allow space for and freedom to freely adopt a non-materialist or theistic analysis, and even perhaps the exacting *caritas* moral ideal of Augustine's City of God. Even if the case for the dualist metaphysical or ontological viewpoint, and arguably even for the whole theological case, via appeal to the need for a cosmic actus essendi is weak, and depends heavily on imagination, and appeal to individual heaceitas and species specialissima to exlain idiosyncratic persosnality, is also weak, the distnction and the problem they point to is real.Buber's type of distinctions seem eminently clear and useful. It at least acknowledges an important boundary.

One might even be able to supplement Aquinas's argument based of the need for a creator ex nihilo and individuating actus essendi by offering an ethical argument for the existence of a person-creative God from these very considerations, an argument stronger than Kant's positing of God as aesthetically and morally fitting to the person of Faith in the third Critique of Judgement.

THE I-IT AND I-THOU DIMENSIONS

I-IT world	I-THOU world
Individual seen an accidental concatenation of universal properties, a variation on the rational species, *homo sapiens*. People may be generalised about, and given a measurable quantitative rating or exchange value, in the objective world. Realism and economies of scale in politics; speed and routine. in interaction; interchangeability; the practical focus.	Individual seen subjectively as idiosyncratic /unique entity, physically and psychically, with own qualitative essence/ species specialissima (Scotus). I am not a particular in the scientific sense (Gocke; Priest in Gocke 2012) , but indescribably connected to the All in awareness /ecstatic experience. Slow and small is beautiful. Irreplaceability. Contemplative orientation.
Scientific experimental critical study of species itself rational; deals in laws, formal recursive functions and descriptions with impartial decision procedures for judging truth value; all knowable objects, including persons,to be described, discussed, impartially; one role player to many clients, customers, consumers,patients etc .	Attitude to the person of self and other is intuitive, empathetic, a-rational, discursive, informal, playful, and tacit. Objects cannot always be explicitly described or measured; story, symbol and metaphor needed; persons as ends in themselves; one to one intimate I-Thou relations. No arms-length measurement/manipulation.
Role/Task orientation; impersonal; overt; objective; public; one-many relations focal ; socio-political order addresses basic social needs for security and health and information as prime; sphere of contract and commutative justice; quid pro quo reciprocity. Absolute clarity ideal.	Expressive orientation; personal; subjective; immanent; private, family domain; one to one relations is focal; personal higher development needs included. Sphere of domestic justice and agape. Making explicit difficult.
Science and policy are both disinterested; impartial; seek the replicable; the controlled; treat the same the same; justice as desert is focal; the explicit as prime; in practical order, principle, rule, law target common good, with equity as the only personal relief ; market exchange arena,	Ethics requires emotional engagement; partiality OK; unconditional creative love not necessarily based on merit focal; needs of the other matter; agape for the sinner, enemy, stranger. The irreplaceable; ecstatic; implicit are intuit-able: casuistry in decisions; no market "commodification."
Practical reason as contractual; pragmatic, instrumental and manipulative; quid pro quo reciprocity; sphere of unfettered	Practical reason as based on treating person as ultimate end (Kant);capable giving and receiving unconditional commitment.

Source: Adapted by the author from Buber I and Thou

Such a case would feature the transcendent worth of persons, but add that there is a teleological, architectonic structure to human action and relations of the sort Polanyi described. Sounded notes or phonetic sounds do not explain performed music or personal conversation.There is little scope in this teleological existentialist account of personhood for eliminative or reductive analysis of soul to body, form to matter, mental to physical. So the "quantitative only" position is out as a complete reductive account. Certain forms of deterministic Marxism are also out. A theistic teleological existentialist a. thinks the success of science is the ultimate miracle, showing we are creatures of an intelligent God; b. such a person is a non-materialist, in the sense of an upholder of rational agency and free choice;and c. thinks indeterminism of reasoned choice is indispensable to human self–understanding, even if it has a physical substrate.

Perhaps this discussion will have helpfully suggested the possibility of alternatives to the totally physicalist quantitative position. You may unconsciously have been situating yourself on the spectrum of preference for qualitative and quantitative research out of some intuitions regarding these big picture issues around dualism and monism, theism and materialism. If so, as I have argued the case, your intuitions that there is an underlying physicalist agenda are sound, and you are quite right to adopt a self-conscious meta-methodical stance against a hard determinist physicalist anthropology/psychology, one apparently prepared to consign our current mainstream and allied moral and legal accounts of the responsible self to the flames.

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i   One weakness was that the same observed behaviour could be exhibited for different reasons eg the same basic arm motion could be the nucleus for many intentional actions e.g.signal to execute   someone or scratch beard; not going near or apparently avoiding heights could be emitted for different and opposite reasons, lack of climbing resources or fear.

ii   In his own technical terms, qualitative properties are "non-compositive, non-divisible, open, repeatable, and internal." I will not expound or defend the view here, but the claim of non-compositiveness of properties and non-divisiveness go back to Descartes' res cogitans versus res extensa, and Chisholm represents a strong pro-qualitative stance and a viable dualism. For details see Chisholm 1991.Other dualists include Eccles and Popper; Foster (1991) The Immaterial Self , Routledge. See also: H. Robinson's Stanford Encyclopaedia of Philosophy article, " Dualism". The 3-world view is criticised by others e.g. Watson and Williams.

iii   Property, attribute, and predicate, are intuitively wider notions than quality, but I have not tried to supply a definition.

iv   See e.g. A. Louch (1966) *Explanation and Human Action*, UCB . A stipulated quantity taken as a proxy for quality can distort qualitative judgement or reflect bias. What if a "strike" is defined as a two hour "down tools", or a down tools of two days? Stipulate the former, and Australia might be "more subject to industrial unrest" than Sweden, even if the actual hours "off the job" were the same or fewer. Marxists point out that such plasticity, arguably driven by distaste for Swedish socialism and egalitarianism, makes a mockery of much "objective" libertarian inspired comparative quantitative economic analyses of "productivity." To take another case, if "trust" is conceptually a five place predicative relation, always trust (1) by A (2) of B in respect to (3) C, where A must be (4) in characteristic intentional trusting related states I (1-n), and (5) situated within a specific domain, D, (such as the family, civic, organisational domain), then it is a waste of time looking quasi-scientifically for "the nature and causes of trust" via a study of trust focused on correlating two of the five variables only. It is a category mistake, and no amount of number crunching will help.

v   The difference between two extensive magnitudes is an extensive magnitutude .The difference between two intensive magnitudes is not an intensive magnitude.

vi   With Gregory of Rimini, Leibnitz, and Russell.

vii   With Al Gazzali, Nicholas of Autrecourt, and Hume

viii   Today we can distinguish (1) an individual, which if it exists, can have a potential proper name, s, and exemplifies some type of attribute, H, like humanity; (2) the predicative "is" which attaches to the attribute in eg " is a man" and can be ascribed to the individual as in "Socrates is a man," which would be symbolically written "Hs"; (3) an existential claim about the individual, as in E!a.

ix   The capacity to laugh is a human differentium on the essential side of the ledger, but not listed as part of the definition of humanity.There is a narrow technical sense in which it is a property not just an attribute.

x   Aristotle's account of circumstances is in Nicomachean Ethics at Bk 1 ch 6 11196a 15ff; Bk II 1106b 3 6;Bk III, 1110b36,24-33;Bk V,1130a24ff;

xi   Aristotle thought that propositions should be determinate and either true or false- a postion easy to challenge if meant as a fact, given humorous , vague, and indeterminate statements assigned no ruth value.

xii   Taylor thinks mind body "identity" in some form is a side issue, but the form of the laws found is not. Searle adopts a sophisticated, what might be dubbed a 'promissory note" form of materialism, which says that eventually 'vertical' bottom up physical accounts of human action and top down voluntary psychological accounts will meet together and match up, without wiping out freedom or consciousness of the self, probably depending on an expansive account of "matter" currently unavailable.

xiii   See M Polanyi The Tacit Dimension,1968

xv   Ardagh 2014