Concept Development and the Psychology of Education

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When faced with a two-part title such as I have for the title of this paper, an obvious approach would be to start with the second idea; the study of what is going on in developmental psychology as someone is educated, and try to illuminate the first; what are these mysterious mental entities 'concepts' and how do they develop? I intend, however, to reverse this order of explanation. What I want to do is give a no-doubt rushed and biased account of the development of our philosophical thinking about 'concepts' and from that attempt to draw useful pointers to how we can think about education with hopefully an emphasis on the psychology involved. What I shall do is give examples from three separate areas of philosophy where as I see it we have the same themes emerging as to 'what thinking is', and then attempt to apply these themes to the psychology of education. I do this not only because I happen to know a lot more about philosophy than developmental psychology, but because as we shall see, the overarching moral that I wish to draw is that very often we have made, and can make progress by reversing common-sense ways of looking at issues.

The plan of the paper, therefore, is in four parts. Firstly I shall look at some philosophy of language and outline one approach to analysing concept-use. In a nutshell, what we shall see is that an approach is needed that respects both the *subjective* and the *objective* nature of thinking, the degree to which we are autonomous and free, where it is 'up to us' and our *responsibility* how we use concepts to think with; and also the degree to which *authority* over that use of concepts lies outside us, and hence we are constrained. In the second section I shall outline a piece of political philosophy that I think gives a nice concrete example of the approach I support and helps us to see how it may be applied to educational questions. In part three I turn to ethics to again illustrate in a less abstract way what implications there might be. Finally I shall attempt to derive some lessons for how to think about psychology given what we have said.

For a majority of human history the thinking on the matter of concepts was pretty much agreed; they were structures that you thought with that somehow 'resembled' or 'represented' what one was thinking about, and that were made up of *definitions* (see Margolis & Laurence [1999] for an overview of the field). Thus 'out there' would be a furry, purry animal and a nice rug and 'in here' was a concept CAT that referred to the animal and another, MAT, to the rug and in your brain you put these together and thought that the cat was on the mat. Note that what concepts *are* is taken to be the first priority, and *then* we worry about what to do with them once we *have* whatever they are. For sure there were arguments, notably around *how* we get CAT into our heads, whether as the rationalists would have it, you let 'necessary ideas' come to you and built up from there, or as the empiricists preferred, you experienced the furry purry animal which

somehow 'gave' you the idea CAT through 'association'. But once you had them, you shuffled them around and combined them and that was thought. Note again the essentially *passive* nature of this for the thinker, concepts on this view are very much something we take in or absorb, or in the recent words of Jerry Fodor, 'Thinking isn't something that we do, it is something that happens to us' (Fodor, 2008). The implications for education of this view are obvious; we simply find out *what* these concepts are, how they are structured, what relation they bear to the world, and we get them into people's brains.

The problem for this whole approach is it doesn't work. No-one has managed either a definition of any concept or an account of how we *get* them that isn't full of holes. Defining what the concept CAT *is* turns out to be incredibly hard to answer; not a 'furry purry animal', for a shaved and mute cat is still a cat. Talk of feline DNA involves circularity as well as seeming to imply that pre-1950 no-one knew what they were talking about. Nowadays psychologists create connectionist networks that distribute the CATness across probabilistic webs very cleverly, but humans seem to be able to combine and produce *new* thoughts in ways that probabilities don't. As regards *how* content is fixed, currently the most popular modern approach is Fodor's version of Davidson's idea that a CAT symbol in the brain is *caused* by the furry purry animal and thus CATness 'flows' into the concept (Fodor, 1990). The problem here is that what *actually* causes the symbol CAT is not necessarily what *should;* it is impossible to say whether what caused our thoughts *was* a cat, or, perhaps, a squirrel-seen-in-bad-light without fixing what we *mean,* or more precisely what we *should mean* by CAT, in other words of checking not only *what* it is that we think, but whether what we think is *correct.* On these accounts we *do* think CAT, but *ought* we to think CAT?

And so there are enormous problems with specifying exactly what *are* these things, these 'concepts' that we possess, which seems to thwart trying to *do* anything with them. This is the first common-sense notion that it is productive to reverse; for a parallel line of thinking takes a *pragmatic* view and asks firstly what is it that concepts allow us to *do,* and then worries about what they *are,* or to give it a slogan, 'know-how' comes before 'know-that'.

This tradition sees concepts themselves as *abilities,* as patterns of *action.* Although seen as a modern development, we can identify Immanuel Kant as the founding father of this way of thinking about thinking (the Kantian ideas developed here draw heavily on Brandom, 2007). Kant himself reversed the previous priority of the objective over the subjective, and moved from focussing on the *thought* to focussing on the *thinker.* Despairing of being able to 'check for correctness' against the external world, Kant relocated the rules of 'ought' inside the subject. On this reading, to think is to make a *judgment,* and to take *responsibility* for that judgment. As Sellars developed the Kantian line, to think at all is to bind oneself, to place oneself in a structure of *reasons* rather than merely *causes* (Sellars, 1954; 1963b). Some points immediately follow. One cannot start with the standalone concept CAT, as what sort of responsible judgment could this be? One starts by thinking *that* the cat is on the mat, *from* which we can derive what CAT contributes to the thought. The meaning of concepts should be seen now primarily as being about what one should *do* with language, rather than about what *is* out in the world; concepts become *rules* for forming judgments.

As mentioned, Kant saw these rules, these norms that set not only what our thoughts *are* but what they *should be,* as what I shall call 'I-rules', rules that operate within *and* upon an

individual as the subject. There is an immediate problem that was drawn most vividly by Wittgenstein (Wittgenstein, 1953/2005); if our thoughts *and* whether they are correct is simply up to us, how could we ever be wrong? The excesses of objectivity outlined above have swung too far, leaving us with a totally idiosyncratic picture where, like Humpty Dumpty in *Alice in Wonderland,* 'when I use a word, it means whatever I want it to mean'.

As a footnote, it would take us too far afield to properly address the matter, but this is the weakness with the educational philosophy of Kant's descendents the Radical Constructivists (for example, see Glasersfeld, 1995). This laudable attempt to give autonomy and conceptual-control back to the thinker drifts into indeterminacy if only 'I-rules' constrain the use of those concepts. If I can never be objectively wrong in judgment, then I can never be *right* and my thoughts become meaningless unless this is mysteriously 'given' to me through experience.

The problem is that Kant located both *responsibility* and *authority* in the same subject; he correctly portrayed rationality as being liable to assessment, but then made the candidate the assessor. As Brandom puts it, one has to bind *oneself,* but one also has to *bind* oneself and answer to rules that to some degree are 'outside us' (Brandom, 2007). The obvious place to locate authority 'outside us' is in the social. As Meredith Williams has it, we hold each other in 'mutual policing' (Williams, 1991), our *attitudes* to what others are allowed to do with concepts or banned from doing with other concepts can provide an objectivity to the rules that set *what* the concept is. We should note, however, for it will emerge as important in the last section, that the social may indeed have *authority* but it does not have *power;* nothing can *make* us use concepts in a certain way or *force* us to follow norms of correctness, there are no 'they-rules' or social categorical imperatives which are handed down from 'on-high' to take away our own role in judgment. Famously Wittgenstein proclaimed that 'meaning is use'; on this more recent reading, a concept's meaning is how it *ought* to be used, as inferred from the games of 'deontic scorekeeping' we apply to ourselves and others (a full defence of this can be found in Lance & O'Leary-Hawthorne, 1997). And so, if one declares that the cat is indeed on the mat, one *may* agree that a mammal is on the mat, and one *must not* also claim the cat is in the air. From this pattern of attitudes emerges the *meaning* of CAT, MAT and what have you. It follows, as Sellars saw, that to think at all one must *already* have determinate concepts available for one can make judgments *with* (Sellars, 1963a), but on this account the pattern of correct usage is already fixed through the pre-existing linguistic uses of others.

We are seeing another strange inversion of common-sense appear. On the reading I am outlining, what a concept *means* does *not* describe anything out in the world, it is not 'about' any fact. The declaration 'CAT means furry purry animal' does *not* tell us of a relation between a word and the world, but attempts to influence others in their future use of the concept. To declare what a concept *means* is to *endorse* how to apply it, it is to make a *recommendation,* to *urge* rather than to *state.* This is what O'Leary calls the 'constitution picture' (Lance & O'Leary-Hawthorne, 1997), where taking on a concept's meaning is to actively *accept* a system of permissions and obligations, much as the meaning of a piece of legislation lies in the pattern of permissions and obligations that ensue from it. And what emerges is something exciting if unexpected. This binding of oneself by reasons *allows* new abilities, the abilities to use concepts to express novel thoughts. We see a kind of positive *freedom* emerge for the subject, a freedom that, in Brandom's words, *is* rational self-constraint. In an episode of the TV programme 'The

West Wing' a character declares 'I'm in favour of freedom. And freedom stands opposed to constraint'. They couldn't be more wrong. A form of freedom *is* constraint, or in a lovely phrase 'self-expression through acquiescence' (Brandom, 1979).

The theme I wish to draw from this to carry forward is the way that we can walk *between* objectivity and subjectivity, between 'they-rules' and 'I-rules' and find a form of 'we-rules'. As Brandom puts it, our concepts are both attitude-*dependent* in that we can autonomously choose *whether* to use them, and attitude *in*dependent in that we can*not* then choose the significance of using them. Concepts as rules can be seen as like the rules of chess; we are free to choose *that* we play chess and follow the rules, but not *what* the rules are. But note; *only* by accepting one to be constrained by the rules, is one *able* to play chess. One is *not* more free who throws the pieces on the floor, or moves them any which way, for they *cannot play the game*. In the same way I am free and responsible to declare the cat to be on the mat or otherwise, but not free to define what it is that I have judged. The *self* uses a system and is responsible for judgment, but the *other* sets what the content of those judgments are. I find it productive to think of concepts on this pattern as like laws; the speed limit, for example, let us say is 80km/h. This does not tell us what cars 'out there' on the roads are *actually* doing (although there may well be quite a tight correlation), and to *change* the speed limit we do not go out & look at cars or change how they are driven. The speed limit is a pattern of social benefits and sanctions, 'you may do this' 'you must do that' that we hold ourselves and others to, a role in a system that thus sets the content of what it *means*.

It is this talk of 'laws' that leads me to consider the political philosophy outlined in John Searle's *Freedom and Neurobiology* (Searle, 2007). Searle is concerned with what he calls 'social reality', the realm where objects and roles have this 'dual nature' that straddles the subjective and the objective, that only exist if people *take them to* exist, yet on those terms can be seen as 'really real'. The classic example is money. A 1,000 yen note in one sense is attitude-dependent, if no-one recognised or *accepted* it as such, it would not *be* money. Yet given that we *do* accept the system of norms within which it plays a part, it really truly *is* 1,000 yen; I have autonomy and indeed responsibility to make the judgment and accept *that* it is money, yet I do not then have the authority myself to determine *what* it is worth. Searle locates the source of this 'institutional reality' in the particularly human ability to use language to accept that, in his formulation 'x *counts as* y', to accept systems that we will bind ourselves and others by in our attitudes in acting *as if* one object (for example, a piece of paper, or a sound from our mouths) can be taken for another (monetary value, or a linguistic move in the 'game of giving and asking for reasons'). Searle then places the normativity of political power in exactly the same framework as I have outlined the normativity of conceptual meaning; a linguistically encoded system of rules that if *accepted* then can indeed *constrain* us yet allow for a positive form of freedom. Thus in his words 'all political power, though exercised from above, comes from below'. What this suggests is another area where 'normativity', in other words where one encounters duties, permissions and obligations, where one can be *judged* correct or not, or *evaluated*—such as playing a role in a political system or as we had before applying concepts —is both *up to us* in that the very existence *of* the system depends on our mutual attitude of acceptance towards it, and *outside us* in that its content is pre-'set'. All political power, claims Searle, is *deontic* power, the power to set the expectations on people that we hold each other to,

as *constituted,* and not merely described, by language.

And again, this creates a positive freedom in that through language, humans alone in the animal kingdom can develop, determine and operate under *desire-independent reasons for action,* a space of reason that we are both responsible *for* and responsible *to.* We also see again how statements of political power, for example 'the LDP is the governing party in Japan' are primarily not *descriptive* but *prescriptive;* much like statements of what concepts 'mean', they outline and decree what we should or can *do* when operating within those systems, rather than tell us *what* the world is like.

I have outlined examples where it is productive to consider concepts as abilities and to analyse abilities, or powers, be they expressive, linguistic or political as more akin to ethics than to science, to see thinking as more a part of a world 'fraught with ought' than a world of brute causes, and to see communication of this thinking as more like legislating and persuading than describing or transmitting. As a final example I look at the account of rationality offered by Allan Gibbard (Gibbard, 1990; 1994). Gibbard broadens out this approach to *all* judgments of correctness, be they ethical statements of moral correctness, rational statements of what 'makes sense' or semantic statements of conceptual meaning. In his so-called 'norm-expressivism' all of these judgments are not *descriptions* but *endorsements,* to say a concept is moral, rational or correctly applied is not to speak of anything being 'true' or 'false' but is to express acceptance of a system of rules that permits that concept. To take an example, the phrase 'it is correct to say that the whale is a mammal' is not 'about' any fact or property in the world, but expresses acceptance of the system of norms which would entail 'is a mammal' from 'whale'. We can see again the pragmatic order of priority, in first looking at what we are *doing* in making claims, rather than it what they *are.* Thus the *purpose* of all normative talk for Gibbard, be it ethical or epistemological, is an attempt to create *consensus* in order to *co-ordinate* our uses so as to accord with linguistically-encoded rules together. Language on this account allows shared evaluation of each others' judgments and agreements and negotiations as to future judgments, it is how we exert mutual influence and create structures if reasons that are only created by and only operative upon humans. Again we have an account which sees the very nature of concepts as *not* representations of the world but attempts to *influence* our social practices in describing the world. The 'mapping' that is attempted is not world-mind but a mapping of your commitments onto mine in reciprocal recognition. On this account to 'teach' a concept becomes less to make statements *about* the world than to *stipulate* or *legislate* what systems of rules *should* be accepted so as to bring about co-ordination and consensus in our practices. We stop seeing 'it is correct to . . .' as being true or false, but an expression and a suggestion of how to go on.

And so, finally, I shall attempt to draw some tentative conclusions from this account of how to look at concepts. What I am suggesting overall, is that the epistemology and psychology of education fits this same normative structure; an authority that has the dual nature of existing only insofar as it is *taken* to exist by the subject, but then is objectively binding *upon* the subject, that a subject *expresses* acceptance of in making judgments as to how to use concepts, how to hold *others* to their use of concepts and how to accept others' authority *over* their use of concepts.

Firstly I claim that where the psychology of education has been concerned with *belief,* we should think more about *acceptances* (for this distinction to be spelt out see Tuomela, 2000).

Beliefs can be seen as passive, often involuntary states that combine with desires to cause action. A dog can be said to 'believe'. In contrast, to 'accept' is a voluntary, active process that involves bringing oneself under a desire-independent *reason,* a process that requires and is part-constituted by language, a uniquely human phenomenon. Here we see the importance of autonomy and the idea of freedom; what I have claimed is that if the subject does not *accept* rules of correctness thought, then in a sense they have no hold over her, they can even be said not to exist. The correct use of concepts, like the rules of a game are indeed social facts, which Durkheim declared can 'be recognised by the power of external coercion which it exercises . . . over individuals' (Durkheim, 1895/1964, p. 10). Part correct; I am indeed 'coerced' by the rules of the game in the sense that I 'cannot' move a chess pawn diagonally or declare the whale a fish, *but only if I accept that I am playing the game.* There is a story that in the 19th century a foreign ship ran aground in the British port of Hartlepool with a monkey on board. After torturing the poor ape, the locals apparently decided that it was a French spy and hanged it. Now clearly the social web of acceptances did not *make* the monkey a spy, and in the same way we cannot externally *coerce* someone into being a learner through identification. If I agree to give up co-ordinating with others in playing chess or studying biology (or, crucially, like the monkey was *never* aware that I was playing that game) then any sense of 'correctness' falls away. Teaching on this view cannot be 'drilling', cannot be training in a Pavlovian sense, but more of a *negotiation,* an urging of the subject to accept systems of correctness that bring consensus and coordination and create her as 'one of us'. Pedagogical power, though exercised from above, comes from below, and there is a positive freedom required from the subject as learning involves self-expression.

The second point comes from continuing Brandom's phrase; 'self-expression through acquiescence'. I have talked of systems that are both subjective *and* objective, that require acceptance *that* they hold, but are attitude-independent in *what* they hold. On this view the autonomy of learners does *not* extend to content, teachers have the *authority,* as representatives of the social, to stipulate and legislate *what* the rules of correctness are. This should quash any justification for any moves towards facile relativism or any reluctance to apply the word 'wrong' to a learner's thinking. There is a clear asymmetry operating; the social location of authority is *not* a democracy; as Brandom puts it, the correct application of the concept 'molybdenum' is *not* put to a vote, but laid down by pre-eminent chemists (Brandom, 2007). We here see again the distinction that Meredith Williams makes when saying that teachers have 'authority not power' over what is learnt (Williams, 1991). Obviously teachers cannot change the *world* by decreeing the whale a mammal, nor *force* anyone to agree, but they can influence social practice of use so that the concepts are used *correctly.* As Williams puts it 'the novice acts, the expert endows with meaning', in other words, holds the novice accountable within systems of norms. Note, again, the central importance of actively using language in this process prevents a retreat into mindless behaviourism. This Williams describes aptly as 'calibration'; psychological development in education seen not as describing facts about the world but structuring patterns of use to produce coordination. Thus the teacher's words 'the whale is a mammal' can be seen as not first and foremost about the *world* but about *words,* it is a *recommendation* or *endorsement* of how the learner should use language, in the same way as calibrating a ruler *sets* what, say, a centimetre is, stipulating the norms of conceptual use set their

content.

Finally there is an internal point for the psychology of education. I have been talking of accounts which move between subjectivity and objectivity, an attempt to characterise 'we-rules' rather than 'I-rules' or 'they-rules'. And this could have implications for lectures one and two in 'Education 101'; to brutally parody complex bodies of work; 'Piaget: it's all internal', 'Vygotsky: no it's not, it's all external'. Perhaps we are approaching a conclusion in the best pluralist liberal tradition, 'it's something in between'.

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