

## Universals

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Universals, properties wholly present in all instances that have them, may have come to Australia in 1939, when A.K. Stout was appointed to the Chair of Moral and Political Philosophy at the University of Sydney, and his father G.F. Stout followed him, publishing “Things, Predicates and Relations” in the *Australasian Journal of Psychology and Philosophy* one year later (cf. Passmore 1944: 5). At the University of Sydney, A.K. Stout joined the famous Challis Professor of Philosophy, John Anderson, whom David Armstrong (2005) has called “the most important philosopher who has worked in Australia”. Armstrong himself – who has likewise been described as having a “claim to being the greatest philosopher produced by the young and vast country of Australia” (Mumford 2007: vii) – became Anderson’s successor as Challis Professor in 1964, and very much created the contemporary discussion of universals in 1978 (*Universals and Scientific Realism*, in two volumes), turning Australia into the homestead of both friends and enemies of universals. Together with David Lewis, who dedicated his *Papers in Metaphysics and Epistemology* to the “philosophers, past and present, of Sydney and Canberra”, Armstrong continues to have a formative influence on the discussion of the age-old problem of universals (a good presentation of his overall position is his 1989a; cf. also Oliver 1996).

Armstrong defends an *a posteriori* realism about universals, citing Anderson as a fellow *a posteriori* realist (1978: 109). It is up to our best science to determine which universals exist, i.e. which resemblances are grounded in the presence of one and the same universal in the resembling particulars. Science not only discovers what things there are, but also how they are. Armstrong then proceeds to put universals to work in his theories of laws of nature (1983), of non-actual possibilities (1989), and of states of affairs (1997). In his 1978 work, Armstrong presents three arguments in favour of his *a posteriori* realism about universals: the One over Many, the argument from logical form, and the truthmaker argument.

The One over Many starts from the allegedly Moorean fact that “many different particulars can all have what appears to be the same nature” (1978: xiii). It then proceeds through a number of Nominalist accounts of this fact, arguing that they do not succeed. Armstrong criticises Predicate, Concept, Class and Mereological Nominalisms on the grounds that they involve a regress (on pain of accepting universals like *falling under, applying to, being a member of or being a part of*), cannot distinguish between coextensive properties, and cannot account for the causal efficacy of (instances of) universals. He argues against Resemblance Nominalism that it too involves a regress (on pain of accepting a universal of resemblance) and that it inverts the order of explanation: *a*’s being *F* cannot be grounded in *a*’s resembling other particulars – rather *a* resembles the other *F*s in virtue of being *F* itself. Armstrong concludes that “this appearance cannot be explained away, but must be accepted” (1978: xiii). As he puts it elsewhere, “if the notion of non-numerical identity turns out to be unanalyzable, then presumably we ought to accept it with natural piety as an irreducible feature of the world. And to accept irreducible non-numerical identity is to accept universals” (Armstrong 1984: 251).

The argument from logical form is that apparently true sentences quantify over properties. Armstrong now accords this argument only subsidiary status (1997: 48), partly in response to Lewis’ remark (1983: 16) that the paradigm sentence ‘A red

thing can resemble an orange thing more closely than a red thing can resemble a blue thing' (cf. Jackson 1977) may, assuming an ontology of possibilia, be paraphrased as 'Some red thing resembles some orange thing more than any red thing resembles any blue thing'. In addition, and more importantly, Armstrong's reassessment of the argument from logical form was motivated by his replacement of the Quinean criterion for ontological commitment with the more general truthmaking principle. Requiring some thing in the domain of quantification is just one way for the truth of a sentence to depend on the existence of an entity: not just "Redness is a property of this tomato" but also "This tomato is red" commit us to redness as part of the truthmaker of these sentences.

Armstrong's main argument for the existence of universals thus starts from the fact that particulars resemble. Relying on the truthmaker principle which he attributes to his former Sydney colleague C.B. Martin, Armstrong argues that such resemblance facts have to be accounted for: if it is true that both *a* and *b* are red, for example, there must be an entity, the truthmaker for this truth, the existence of which necessitates this truth. Truth is not brute: it is grounded in reality. The importance of the truthmaker principle for Armstrong's philosophy can hardly be overestimated: he devotes his latest book to its elaboration and defence (2007). We should believe in the existence of universals because they are required to ground the truth of statements of objective resemblance.

Over the years Armstrong vigorously defended both the truthmaking principle and his realism about universals against a number of opponents, many of them in Australasia and including figures on both sides in the Sydney philosophy disturbances that led to a division of the philosophy department into two (see Franklin 1999 and 2003). In 1980, Michael Devitt, an opponent in the Sydney affairs, took up the Quinean position which Armstrong in 1978 had, he thought, quickly disposed of:

Besides the five versions of Nominalism already outlined, we should perhaps include a sixth: Ostrich or Cloak-and-dagger Nominalism. I have in mind those philosophers who refuse to countenance universals but who at the same time see no need for any reductive analyses of the sorts just outlined. There are no universals but the proposition that *a* is *F* is perfectly all right as it is. [...] What such a Nominalist is doing is simply refusing to give any account of the type/token distinction, and, in particular, any account of types. But, like anybody else, such a Nominalist will make continual *use* of the distinction. *Prima facie*, it is incompatible with Nominalism. He therefore owes us an account of the distinction. It is a compulsory question in the examination paper. (Armstrong 1978: 16-17)

Against Devitt, Armstrong (1980: 443) argues that Ostrich nominalists give the predicate "what has been said to be the privilege of the harlot: power without responsibility. The predicate is informative, it makes a vital contribution to telling us what is the case, the world is different if it is different, yet ontologically it is supposed not to commit us." As "continually to raise the truthmaker question about properties makes for ontological honesty" (Armstrong 2004: 43), the truthmaking principle commits us to realism about properties.

Subsequently, and most prominently in his (1997), Armstrong argues that the truthmaking principle leads us, further, to the acceptance of the existence of states of affairs, such as *a*'s being *F*. Universals are then reconstructed as 'state-of-affairs types': "The universal is a gutted state of affairs; it is everything that is left in the state

of affairs after the particular particulars involved in the state of affairs have been abstracted away in thought” (Armstrong 1997: 29). If we want truthmakers for all truths (and thus uphold truthmaker maximalism), just the ‘normal’ states of affairs will not suffice: to account for general, and negative, truths, we also need so-called ‘totality states of affairs’. That *a*, *b* and *c* are all the black swans there are, for example, is made true by the totality state of affairs *a*, *b* and *c*’s *totalling the property being a black swan*. Such totality states of affairs are highly problematic, however, and have come in for much criticism: “Armstrong has become a bit pregnant. He has lost his empiricist virginity and subscribed to the existence of abstract and non-spatio-temporal general factness” (Martin 1996: 59, cf. also Keller 2007). Other reactions from members of the ‘Australian school’ of metaphysical realism are well documented in Monnoyer (2004) and (2007).

Realism about properties is not yet realism about universals. Universals are characterised by their being wholly present in all their instances: one and the same numerically identical universal accounts for the redness of all red particulars. An alternative view is that different rednesses, all exactly similar, do this job. G.F. Stout attributes to Anderson such a view that “the characters of particular things are themselves particular” (1940: 119, cf. also 1921 and 1923 and Anderson 1929). According to D.C. Williams (1953 and 1966), such “tropes”, as he calls them, form the very “alphabet of being”. Australian philosophers – most notably Keith Campbell (1990), an ally of Armstrong in the Sydney troubles and his successor as Challis Professor, C.B. Martin (1980), and John Bacon (1995) – have developed this idea into a respectable rival to realism about universals (cf. Lewis 1986: 64). According to trope theory, resemblance facts are not to be accounted for in terms of the exemplification of one and the same universal, but rather in terms of the exact resemblance of numerically distinct property instances, each depending on the particular in which it inheres.

According to Armstrong, trope theory faces two main problems, to do with relations and laws of nature respectively. If, as is usually done, tropes are taken to be located in space and time, relations will end up having one leg in one and another in the other relatum, as Leibniz remarked in his correspondance with Clarke. According to Armstrong’s non-Humean theory of laws of nature, a law of nature is the exemplification of a necessitation universal by two or more universals, grounding the truth of empirical generalisations over all their instances. Tropes cannot account for this generality, and are unsuitable to provide the required unity to the variety of cases to which the law applies.

Armstrong is an immanent, Aristotelian realist about universals, holding that only exemplified universals exist. This sets him apart from Peter Forrest (1986), one of his pupils, and John Bigelow and Robert Pargetter (1990), his colleagues in Melbourne, who believe in unexemplified universals as well. While Forrest wants unexemplified universals to do the work of unactualised possibilities, Bigelow and Pargetter use them to provide an ontology for mathematics. Another exchange with Forrest, Bigelow and Pargetter concerns the thorny topic of structured universals, like *being a methane molecule*. Structural universals provide structure to the particulars that exemplify them, and are composed out of simpler universals in some non-mereological way. The structural universal *being a methane molecule*, for example, contains the universal *being a hydrogen molecule* four times over. While Lewis (1986a) rejects non-mereological composition as unintelligible, Armstrong (1986), Forrest (1986a), Bigelow (1986), and Bigelow and Pargetter (1989) accept it, Armstrong (1989: 42) accepting it for states of affairs as well.

Against C.B. Martin (1993), Brian Ellis (2001), and George Molnar (2003), another opponent in the Sydney troubles, Armstrong deploys the truthmaker argument against ungrounded dispositions: dispositional properties need categorical bases. If “to say that this lump of sugar is soluble is to say that it would dissolve, if submerged anywhere, at any time and in any parcel of water” (Ryle 1949: 125), ascriptions of solubility and especially of causal powers to soluble things need actual, categorical truthmakers; in this sense, solubility is derivative from, and depends on, its categorical basis, the molecular structure of soluble things. Armstrongian universals are categorical: they characterise how things actually are, not how they would be under non-actual circumstances (see, for discussion, Armstrong, Martin and Place 1996).

Apart from powers, two other classes of universals have been intensively discussed recently, primarily though not exclusively between Australian philosophers: quantities and vectors. Mass universals, for example, resemble each other. Armstrong (1978: 120-27, 1989a: 105-6) accounts for this resemblance in terms of mass universals sharing constituents: however, as Pautz (1997) and Eddon (2007) have argued, this account has serious problems. As an alternative, Bigelow (1988) and Bigelow and Pargetter (1989) have defended a relational account of quantities (cf. also Armstrong 1988), but the issue remains very much alive today (see Nolan 2008 for some other problems concerning quantitative universals).

Vectors present another set of problems. The directionality of vectorial universals raises the question whether or not they can be intrinsic (Robinson 1989). If some universals are vectorial and vectorial universals are identical only if their directions are the same, then it is unclear when two vectorial universals exemplified in a curved space are identical (Forrest 1990; see also Weatherson 2006 and the contributions to the special issue of *dialectica* 2009(4) for some other problems involving vectorial universals).

Together, these philosophers have made and still make the problem of universals a very much Australian topic, offering us a discussion that lives up to the highest standards of rigour of our discipline, thus living up to Armstrong’s dictum that “philosophy is not meant to be easy” (2004: 117).

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