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A solution of the problem of a "principle of individuation"

1 Setting the stage

The problem of a "principle of individuation" seems to be one of those philosophical problems that had received many answers before they have actually been properly understood. It possibly harbours many problems under one rubric. Regis (who denies that Aristotle ever sought any "principle of individuation") lists no less than seven:

1. How do we know an individual when we see one?
2. What is it about a description of an individual that enables the description to identify the individual?
3. How do we distinguish one individual from another?
4. How does an individual differ from a universal?
5. What makes an entity the same throughout change?
6. What makes an individual a unit, e.g. one man, as opposed to two legs, two arms, *etc*.?

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7. What in the nature of specifically identical individuals makes them numerically different?[2]

This list is obviously not complete.[3] Here I should like to propound an eighth one: Given that individuals are describable in general terms, what is that part (ontological component) of theirs which makes them (not an agglomerate of universals but) a true individual? In this phrasing, the problem looks (to everyone but an extreme realist believing in *universalia in rebus*[4]) truly absurd; trading in such problems—*Scheinprobleme der Philosophie* (1928), to put it with Carnap—has not failed to give philosophy a bad name.[5] But the list is anything but complete: There is still, for instance, the question what a principle of individuation (in whichever sense) is in general, and what it is in any particular case, in what way it discharges its individuating task, and so on.

And yet … for all that, it is tempting, for some obscure reason (an innate tendency of human reason, as Kant would say, see his Transcendental Dialectic), to keep asking such questions and not easy to give up thinking about them. Absurd, then, as it may seem to waste one's own and one's readers' time on such musings elsewhere, on the hospitable pages of this Journal it will not be quite illicit to pursue for some time certain lines of reasoning on the topic.

2 "By their roots shall ye know them" or some history

It is difficult to say where and when the problem of the principle of individuation was first itself identified and formulated. As is well known, it is possible to find answers to questions asked much later even in Presocratics, not to mention Plato, but that is not what I mean. What I mean is rather a robust question like: "what, on earth, is the principle that makes individuals individuals?" or some such. Aristotle is sometimes credited with having come up with a solution to this ill-defined problem; to wit, where he said that παντὸς γὰρ ὕλη τις ἔστιν ὃ μὴ ἔστι τί ἦν εἶναι καὶ εἶδος αὐτὸ καθ' αὑτὸ ἀλλὰ τόδε τι.[6] (*Met.* Z, 1037a[7], 1f.: "Indeed there is some matter in everything that is not an essence and a bare form but a 'this'," Ross' translation; in Tredenninck's translation:[8] "Indeed there will be matter in

[2] [Regis A's PoI], 157.

[3] For others, see [King Ind.], 159f.

[4] An anonymous referee of this article has pointed out to me that a truly extreme realist believes not just in *universalia in rebus,* but first and foremost in *universalia ante res.* This is true, yet what I needed above was an extreme-realist belief that individuals are literally "made of" universals.

[5] If the above phrasing does not sound odd to the Reader, she may well try this one: Given that individuals are "made" mainly of universals, how come they are *individuals* after all?

[6] For other loci see [Regis A's PoI], 158.

[7] Following general scholarly practice, I shall refer to the various classical works (Aristotle & Co.) by their titles and the page number of the respective classical editions (Bekker's, in Aristotle's case).

[8] Met. I-IX.

some sense of everything which is not essence or form considered independently but a particular thing," the "essence" of both translations is Owens' "what-is-being,"[9] τὸ τί ἦν εἶναι; or where he claimed that ὅσα ἀριθμῷ πολλά, ὕλην ἔχει (bk. L, 1074a, 34: "all things that are many in number have matter," Ross' translation). The closest he ever gets to the "Aristotelian" doctrine that the principle of individuation is designated matter, i.e. a definite chunk of matter ("this flesh and these bones") is *Met. Z* 1034a 5-8 where he says: "τὸ δ' ἅπαν ἤδη, τὸ τοιόνδε εἶδος ἐν ταῖσδε ταῖς σαρξὶ καὶ ὀστοῖς, Καλλίας καὶ Σωκράτης: καὶ ἕτερον μὲν διὰ τὴν ὕλην (ἑτέρα γάρ), ταὐτὸ δὲ τῷ εἴδει" ("the completed whole, such-and-such a form induced in this flesh and these bones, is Callias or Socrates. And it is different from that which generated it, because the matter is different but identical in form," Tredenninck's translation), but even this is ambiguous as between different problems it can be taken to solve.[10] However, exactly because the problem is ill-defined, it is difficult to say if what Aristotle thought his adage was an answer to was "the" problem of individuation, or some other, related, or related-looking, problem, for instance that of multiplicity.[11] The invention of the problem is sometimes fathered on ʿAbū ʿAlī Al-Ḥusayn Ibn ʿAbdallah Ibn Sīnā, *vulgo* Avicenna,[12] but I have been unable to find any phrase literally translatable as "the principle of individuation" in the *loci* in his *Metaphysics* (Part IV of *Šifā'*, entitled "Al-Ilāhiyāt", i.e., *scientia rerum divinarum*) where they are supposed to occur (e.g. book V, chapter 7).[13] Yet Avicenna gets, it is true, quite close to calling the principle of individuation by its true name when he speaks of مَا يَتَقَوَّمُ وَ يَتِمُّ بِهِ الشَخص فِي شَخصِهِ (*mā yataqawwamu wa yatimmu biha 'l-šaḫṣ fī šaḫṣihi*) ("that by which the individual in its individual [*sic*][14] is constituted and achieved");

[9] [Owens Doctr of Being], 183–188.

[10] [Regis A's PoI], 160. One possibility is that the saying answers the question "Going by what do I tell one individual from another when I see them?" Answer: "By chunks of stuff". But the chunks of stuff are themselves individuated by the individuals they are the material basis of.

[11] In fact, Regis thinks that in the passage in question Aristotle is concerned with a quite different problem, namely, that of the uniqueness of heaven and the statement merely implies that having matter is a necessary condition of individuality, [Regis A's PoI], 159f.

[12] Who would then be the "inventor" of many valuable things, including truth as correspodence (*adaequatio*) and impetus, the predecessor of inertia. For the former see [Aertsen Med. refl. on tr.], 5f. As a matter of fact, Avicenna explains in the VIII chapter of book I, ch. 8 (dedicated precisely to the problem of truth or the true (الحق, *al-ḥaq*)) of *Al-Ilāhiyāt* ([Ibn Sina Al-S.]): الحق ... يفهم منه حال القول أو العقد الذي يدل على حال الشيء في الخارج إذا كان مطابقاً له (*al-ḥaq ... yafhamu minhu hāl al-qaula aw al-'aqda allaḏi yadullu 'alā hāl al-šay'i fī al-ḫāriği 'iḏā kāna muṭābiqān lahu*), "the truth is understood as an enunciation or disposition of the mind signifying an exterior thing and congruent with it", or as it is expressed in the XV-century translation, "*veritas ... intelligitur ... dispositio dictionis vel intellectus qui signat dispositionem in re exteriori cum est ei equalis"*. The crucial word here is *(a)equalis,* which is, perhaps, not the best rendering of the Arabic "مطابق" (*muṭābiq),* which is the participle of the reciprocal (Form III, corresponding to the Hebrew *pôʿēl*-conjugation) verb "طابق" (*ṭābaq*), "to be congruent, fitting, to/with," which better that "*aequalis*" expresses the essence of truth as correspondence. As for the latter (impetus) see [Sayili Ibn Sīnā].

[13] Or in his (*Al-Madkhal, Isagoge*) to *Al-Mantiq* (*Logic*), Part I of *Al-Šifā'*, vol. I, ch. 12 ([Ibn Sina Isagoge]).

[14] All translations accessible to me employ here the word "individuality" or its counterparts, but the Arabic original, at least in the Cairo edition of 1960 ([Ibn Sina Al-S.]), reads "شَخصِهِ" (*šaḫṣihi*), which is the

ibidem, 250.[15]) The topic of the principle of individuation is connected with that of the intelligibility of the individual soul, as Miss Black has elegantly shown.[16] Albert the Great (in his *Metaphysics*, III, 3. 10–11; VII, 5., 5., XI, 1, 7., *Sent*., I, 3., 33; *Summa Theologica*, II, 1., 4, membr., a. 1., p. 1.) did use the term *principium individuationis* as well as provided an answer to the question what the principle of individuation in material beings was. From then on, there has been a long tradition of conflicting doctrines on the issue. The Thomist doctrine and the Scotist doctrine may be considered the most important, or in any case the best known ones; the answer of the former being "matter" (Thomas, *De ente et essentia*, II, 7); that of the latter—"individual form" ("haecceity") (Duns Scotus, *Lib. Sent*., II, III, 2 (*corrolarium*); *Scholion ad II Sent*., d. 3, p. I, a. 2, n. 2.).[17] Francisco Suárez gave, in his *Fifth Metaphysical Disputation*, a survey of various solutions current in the Middle Ages, and provided a criticism of all of them as well as his own solution. A contemporary author who set himself an even more ambitious task of solving not only the problem of the principle of individuation but a number of related problems is Jorge J. E. Gracia. In his book *Individuality* ([Gracia Ind.]) he covers almost all of the history of the problem, and puts forward sophisticated and plausible solutions.[18]

I shall not attempt to untangle all the knots that have been tied about the principle of individuation.[19] Instead, I shall offer my own interpretation of the problem of such a principle. This interpretation is going to be very "meager" or

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basic noun "شَخص" (*šaḫṣ*) with the possessive suffix third person singular masculine, although Avicenna's philosophical Arabic has at least two other words that could have with more justification been rendered as "individuality", viz. "تَشَخُّص" (*tašaḫḫuṣ*) and "شَخصِيَّة" (*šaḫṣiyyat*) (see [Goich. Lex.], 156f.).

[15] All quotations from and references to *Al-Šifā'* are keyed to the pages of the Cairo edition of 1960 by Father Qanawātī (a.k.a. Georges C. Anawati) and Sayʿīd Zāyid ([Ibn Sina Al-S.]).

[16] [Black Avic. on Ind.].

[17] For Scotus see [M.Koszk Ind.ujedn.], a masterpiece still unsurpassed, though sadly in Polish, as is also another useful piece by the same author, [M.Koszk Ujedn. subst]. For more references to Scotus see [M.Koszk Ujedn. subst], 44.

[18] In his *Individuation in Scholasticism* ([Gracia Ind.i.Sch.]) Gracia provided a survey of nearly all solutions proposed between 1150 and 1650.

[19] How entangled such knots often were can be seen from this example: "Cum individua plura sub eadem specie in aliquo conveniant, … per illud autem, per quod conveniunt, differre non possunt, videtur, quod supra naturam, quam importat species, addat individuum aliquid, per quod natura communis in illo individuetur … . Sed non videtur posse intelligi, addi aliquid pertinens ad essentiam et naturam individui, quia illam totam dicit species, quae est totum esse individuorum; ergo si aliquid additur, videtur esse per accidentia … . Secundum hoc esset dicendum, quod quidditas et habens quidditatem differrent realiter … . Sed illud non videtur posse stare, quia individuum non addit supra speciem id, quod non plus includitur in significato individui quam speciei … . Item quod posterius est altero, non potest esse causa illius secundum quod posterius. Sed omnia accidentia individua videntur esse posteriora et adventicia substantiae … . Item non videtur posse dici, quod accidentia faciant individua vel numero divisa, quia nec secundum se habent esse simpliciter … . Item si per accidentia solum fieret individuatio et formalis divisio vel distinctio singularium sub una specie, non differrent … substantialiter ad invicem, sed solo accidente, nec esset unus homo alius ab altero in substantia … . Ergo individuatio in genere substantiae non videtur causari ex accidentibus." (Geoffrey des Fontaines, *Quodlibeta*, quoted after [Prantl G.d.Log.], 198, note 65). A repeated study of this list of "does not seem to hold"'s is recommendable to every serious student of the problem.

"low profile:" I shall try to heed Ockham's warning and accept as little entities as possible, and of the ones that I do accept I shall make as little assumptions as possible. This is for the benefit of all, or most, of the other, "high profile," interpretations—such as the Brentanian one[20]—of the problem here discussed, which it will be possible to accommodate within my "low profile" one. Another advantage of my way of approaching the problem is that I shall be able to give a solution, at least in outline. This solution might not be the simplest, at least if compared with most of the traditional ones that can, and used to be, expressed in a single handy formula. This is the price, however, of applying Ockham's razor, at least as long as one does not misunderstand it in the way it is usually misunderstood in Anglo-Saxon countries, because a solution employing few entities is seldom the simplest one.[21]

3 The answer is given; but what is the question?

We are in a definitely better position than was "Le Stein" on her death-bed, as Miss Toklas did not quote any answer—because we *do* have an answer, quite a few answers, in fact. But what is the question? A naive, indeed, a very naive, way of putting it would be this: What makes individual things individual? This question is only superficially similar to a question like "What makes black things black?" to which many various sorts answers are possible. The question—if not necessarily all answers that have ever been given—makes good sense, because a black thing can very well cease being black without, thereby, ceasing to be altogether. No individual thing, however, can cease to be individual without ceasing to exist. It could seem that the question "What makes individual things individual?" is more similar to a question like "What makes swords swords?" because no sword can cease to be a sword without ceasing to exist. But there is a difference here, too, because a sword can cease to be a sword by becoming something else, for instance, a ploughshare,[22] but no individual thing can cease to be an individual thing by becoming anything else except another individual thing (or a set thereof). Hence the irritation that many have felt about the question "What makes individual

[20] See [Żeł. FB and PoI] and [Żeł. Disent. Br.].

[21] As an aside remark: In the folklore of English-speaking countries the Razor seems to be about simplicity of explanations (simpler–better, more involved–worse, all other things being equal). In the Continental folklore, by contrast, it is about the number of assumed entities. This is also suggested by the mediaeval or supposedly mediaeval Latin formulations such as "*entia non sunt multiplicanda praeter necessitatem*" and the like. Now these two Razors are not by any means equivalent. Explanations (proofs, considerations) employing less entities are usually more complex than those less entity-wise parsimonious. As has been known at least since Russell and Whitehead, all mathematics can be built on the assumption that there exists just one entity, namely, the empty set. (Plus the operation of forming a set of no matter what.) But school-books for first graders with maths employing just that entity would run into hundreds if not thousands of pages. See e.g. [Russell Log. At.], 112–114, 130.

[22] A miracle prophesied by Isaiah (2:4), still to happen.

things individual?" and the denial that it has any sense at all. Individual things are individual purely and simply. Or, to paraphrase Suárez slightly: "Unaquaeque entitas est per se ipsam individuationis principium." ([Suarez Disp. Met. V], 6.1) Or, to quote Leibniz, who in his precocious *Disputatio metaphysica de principio individui* gave, too, a survey of solutions as well as his own: "Omne individuum sua tota Entitate individuatur" (§ 4., [Gerhardt Leibn. Phil. Schr. 4], 18).[23]

This approach, however, solves the problem by overkill (or so it would seem) because, clearly, there is something universal to individuals, even though individuals are not "made of" universals in any vulgar sense of this expression. Suppose that we have been introduced to an individual called "Duro;" if we are not completely uninterested, we shall crave for a bit of information as to what or who Duro is, what it does, what it is like … . If Duro is a bandit, or a dog that answers phone calls, or a registered trademark, then there is something universal that Duro shares with many other individuals.[24] Even the information that a Quinean might give us, namely, that Duro duroizes,[25] does not redeem us from universality, because for *each* individual, if its name is "N," then N enizes. If, therefore, Duro duroizes, then there is something *that* universal that Duro shares with all individuals. Yet, Duro is not a universal characteristic itself. The response that Duro is "just an individual and nothing else," if it expresses any information at all, nay, is at all intelligible, does and is so only because there are other objects that are individuals, too: So that there is, after all, something universal that Duro shares with other individuals, namely, individuality. In the unlikely case that Duro should be the only individual there has ever been, could be, and could have been, at least this much is certain that Duro is unlike all other objects that share at least so much that they are *not* individuals. It appears, therefore, that we can rid ourselves of the spectre of universality, hovering over Duro, only at the price of assuming that there has always been, and could have been, only one object, individual or universal, regardless.

This reasoning shows clearly, however, why the above way of putting the problem, namely, by expressing it in the form of the question "What makes individual things individual things?" can, if interpreted in a certain way, lead to an impasse. For if that which makes individual things individual things is something "in" or "about" them, then, if it is something expressible in universal terms itself, it is nothing more than another universal characteristic and hence cannot make anything an individual thing. Or else, if it is not expressible in any universal terms, then it cannot be known at all.

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[23] See [Cover/Hawth. SaIiL].

[24] In the case of the dog answering phone calls, many merely possible individuals.

[25] See [Quine Owti], 27.

3.1 The problem epistemologised

However, there is quite another, epistemological, still very naive, way of putting the problem of the principle of individuation: Given that being individual is the opposite of being universal, what is the most general difference between universals and individuals, and what accounts for this difference? This way of putting the problem may seem to require a theory of universals and a theory of individuals. It may, therefore, also seem that an answer to the question in hand presupposes a specific theory of universals and a specific theory of individuals, so that, all in all, the whole problem breaks asunder into a whole family of various problems that might be of great interest to the respective adherents of various theories of universals and individuals, but of little or none at all to those who do not belong to any such particular sect. But this is not so. Because for the problem of the principle of individuation, the only thing that matters is a *contrast* between individuals and universals, whatever the former or the latter might be in themselves. As a matter of fact, we do not need as little as the belief that there *are* any universals, or even as little as universal concepts, at all: universal *terms* (linguistic expressions) will do. (Comparing individuals and universal terms may seem like comparing apples and pictures of oranges, but please wait and you will see; if the phrasing grates on your ears, supply "comparing *the behaviour* of…".) And their existence will hardly be seriously put in doubt. As for individuals, we have well-tested hard-working cases, such as Socrates, Boukephalos, or the Moon, but the admission of individuals of other, less standard sorts, such as an afterimage that Mr. Ayer saw thirty-five years ago or the British Army ([Ayer Ind.] 441) will not change anything. The only restriction that I shall put upon individuals here is that they should be spatio-temporal, i.e. located somewhere and at some definite time. The motivation of this restriction is that there are certain interesting things that Brentano[26] has to say with regard to spatio-temporal individuals.

Now given so little by way of assumptions about what is called "individual" and what is called "universal," there still is a striking difference between individuals and universal terms: individuals are unique, whereas universal terms are such that they are, can be, or, at the very least, could have been, true of more than just one individual.[27]

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[26] See my [Żeł. FB and PoI] and [Żeł. Disent. Br.].

[27] This is quite in line with a classical definition of universals given by Avicenna in his *Metaphysics* ([Ibn Sina Al-S.],190): يُقَالُ كُلِّي المَعَنَى إذَا كَانَ جَائِزًا أَن يُحمَلُ عَلَى كَثِيرِين وَإن لَم يَشتَرَطَ إنهُم مَوجُودُون بِالفِعل (*yuqālu kullī ʾl-maʿanā ʾiḏā kāna ǧāizan ʾan yuḥmalu ʿalā kaṯīrīn wa-ʾin lam yaštaraṭa ʾinhum mawǧūdūn bi-ʾl-fiʿl*) ("an intention [i.e., concept] is called universal if it is possible that it should be attributed to many even if these do not in fact exist"). This is only a part of a tripartite definition of "كُلِّي" (*kullī*) ("universal"), the whole of which is summarized in this formula (*loc. cit.*, 196): هٰذَا الكُلِّي هُوَ الَّذَى لَا يَمنعَ نَفس تَّصوَرُهُ عَن أَن يُقَالُ عَلَى كَثِيرِين ("*hāḏā ʾl-kullī huwa ʾlladā lā yamnʿa nafs taṣwaruhu ʿan ʾan yuqālu ʿalā kaṯīrīn*") ("universal is that of which not even the representation is opposed to its being said of many").

To give a few examples: Peter is unique, whereas "man" is a term that applies to Peter, Jána, Edmundo and Zeynab (but not to the Moon or the Federal Republic of Yugoslavia); it can apply to Kazimierz or Sophia, if the unborn baby for whom these names have been elected is born and lives as long as to be baptized, and could apply a number of others if they were to be conceived at all.

If at the present moment there are exactly thirty churches in the German city of Würzburg, then the term "one of the thirty churches in the city of Würzburg" is true—just happens to be true—of just the churches that there happen to be in the city, but it could and can be true of others if new churches were or are to be built, or it could or can stop being true of some churches that there are, if they were or are to be destroyed or turned into museums or gyms, or if the borders of the city of Würzburg were or are to be redrawn in such a way as to leave some of the city's churches outside of the city—provided, of course, that the number of churches remains constant.

The universal term "the British monarch as of 2014" applies to one individual only, but it could have applied to a range of others, if the course of history had been different, for instance, if Edward VIII had not abdicated. Elizabeth II of Windsor, by contrast, is unique in that she neither can nor could have been any other individual.

It is true that there could be or have been (maybe there even is?) another individual that is *called* "Elizabeth II of Windsor," yet both the British monarch of 2014 and the latter individual are individuals in their own right, on a par with each other as individuals. One is reminded of the idea, invented in defence of John Austin's (the legal philosopher's, not Searle's mentor's) concept of a "sovereign habitually obeyed by the bulk of the population," that a sovereign like that is primarily an office rather than a flesh-and-blood individual who just happens to have been invested with it.[28]

The idea that individuals could *not* be unique is very difficult to understand, but it does surface every now and again. Sometimes, it surfaces only to be refuted: Is, for instance, Christ as God and Christ as man two different individuals, or just one? The diphysite Christian doctrine makes a careful distinction between the nature of Christ (two) and Christ's person (one) to steer clear of this rock. The same doctrine claims, on the other hand, that God is one, even though He is a different person in Christ than He is in God the Father than He is in the Holy Spirit. The divine nature is common to all three, just as the human nature is common to Tom, Dick, and Harry, but these are three men; yet, there are no three gods … . But this is all theology, you will say, at its most difficult, where all kinds of strange things happen: the doctrine of Incarnation, and the doctrine of the Trinity.

Sometimes the idea that individuals might, in a sense, not be unique is contemplated in an affirmative frame of mind.

[28] [Cotterell, Pol. o. Jurispr.], 63.

Take, for instance, this sonnet (no. 17[29]) by Shakespeare:

> Who would believe my verse in the time to come
> If it were fill'd with your most high deserts?
> Though yet, heaven knows, it is but as a tomb
> That hides your life and shows not half your parts.
> If I could write the beauty of your eyes
> And in fresh numbers number all your graces
> The time to come would say: "This poet lies;
> Such heavenly touches ne'er touched earthly faces."
> So should my papers, yellow'd with their age,
> Be scorn'd, like old men of less truth than tongue
> And your true rights be term'd a poet's rage
> And stretched metre of an antique song.
> But were some child of yours alive that time
> You should live twice: in it, and in my rhyme.

Shakespeare's addressee (lover) would have lived "thrice" then: in himself, in his child, and in Shakespeare's rhyme. But this is poetry, as you will say, where all kinds of strange things happen and people speak, generally, in metaphors.

Neither theology nor poetry, however, is the domain of civil law[30] where some people claim that if they own a certain individual object *x* that implements a certain idea (a computer program, for instance, or a musical tune), then they by the same token own all the other implementations of the idea: as if they were the same individual as *x*, in multiple instances. This is as hard to make sense of as is two natures of Christ, or the oneness of God in the three persons of the Trinity, except that it is a bit more difficult: Objects that implement the same idea as *x* are acknowledged as individuals in their own right, because otherwise they could not, presumably, be regarded as items of anyone's property, and yet they are assumed to be identical with *x*, because otherwise they could hardly be regarded as items of the property of the owners of *x*. As a way out of this contradiction a weird notion has been conceived and widely adopted, a notion to the effect that ideas (which are not individuals, whatever else they are) can be owned.

All in all, the idea that individuals are not unique, or could not be unique, is obscure.[31] The clearest it has ever got is in the work of David Lewis and other believers in "possible worlds", where across-worlds identifications of individuals

[29] The last of his so-called procreation sonnets.

[30] For another entirely this-worldly and thoroughly sober (biology) example of contemplating the idea that individuals may not be unique see [Robinson Amoebae].

[31] There are other ideas: the unique Imam (in different persons) in Shi'a, the unique Tsaddiq in Hassidism, the unique Dalai Lama in Tibetan Buddhism, the unique King of France in the pre-Revolution France (*ancien régime*) and others. It is possible that we have a very skewed understanding of these ideas.

are countenanced.[32] For ontologies of this sort the problem of individuation has to be formulated in the context of a world, except when classes of across-worldly identical individuals are treated as one (trans-world) individual. I leave it at that as I have nothing to say on possible worlds.

By contrast, the principle that individuals are unique can be interpreted to mean that there are no such two different individuals that they are one and the same individual; or, in other words, that if *a* and *b* are the same individual, then they are one and the same individual. The question "What accounts for the uniqueness of individuals as contrasting with universal applicability of universal terms?" has, therefore, this simple answer: "Logic with identity." This will hardly be reckoned controversial.

Suppose, however, that we do not treat "… is the same individual as …" as a primitive, but define it after Leibniz: "Eadem sunt quorum unum in alterius locum substitui potest, salva veritate" (Leibniz, *Specimen calculi universalis*, [Gerhardt Leibn. Phil. Schr. 7], 219). This formula of Leibniz' is often referred to as "Leibniz' Law," but at the place where it occurs it is a definition.[33] For this reason, the relation between "Eadem sunt" and "quorum unum […] potest" has to be read as that of equivalence. For our purposes, however, it will do to read it as a conditional with "quorum unum […] potest" as the protasis and "Eadem sunt" as the apodosis.[34] Let "Leibniz' Law" signify the Leibniz' formula read in this way. Then, the matter does not look so trivially any more:

Let *a* be an individual; suppose that we have a language *L* that can express everything that can be known[35] of *a* and let *D* be a description of *a* in the form of the conjunction of all deductively independent first-order object-language

[32] As an anonymous referee has noted, Lewis countenances only "counterparts" of individuals. But these counterparts look very much like multiple individuals, one is hard-put to tell the difference.

[33] A definition in the traditional Aristotelian sense of a necessary truth stating what the *definiendum* necessarily is, as an anonymous referee of this essay has pointed out. The necessity is here rather *de dicto* than *de re:* It is not just the case that those *quorum unum in alterius locum substitui potest, salva veritate* that there actually are are necessarily the same things, but it is necessary that whatever possibly are *quorum unum in alterius locum substitui potest, salva veritate* are the same things. I shall make ample use of this modal aspect of Leibniz' Law in the sequel. I am grateful to the anonymous referee for drawing my attention to this very important detail.

[34] Thus not as a biconditional, against some authors mentioned by Black ([Black IoI], 163). Black himself has got it right ("the necessary truth that different things have at least one property not in common. Thus different things must be discernible; and hence, by contraposition, indiscernible things must be identical," [Black IoI], 154), as have also e.g. French and Redhead ([French&Redhead QP&II]).

[35] "Can be known" in the rather radical sense of "not just by human beings but by a perfect knower (God?), i. e. one knowing everything there is to be known" or "there is to be known" for short. This is epistemology showing its roots in ontology. Again, an observation by an anonymous referee.

sentences in *L* true of *a*.[36] I shall call *D* the "complete description" of *a*[37].[38] From Leibniz' Law it then follows (by contraposition)[39] that *D* is not true of any (not even merely possible) individual different from *a*.[40]

Then there is the question: Why is it not? (Or rather: Is it not, and if not, why not?[41]) This is the question that, as I should like to propose, expresses a

[36] *L*, as can be seen, is a very powerful, nay, omnipotent language capable of expressing everything that can be truly expressed about *a*. Its existence is a mere hypothesis, of course. Let it be clear that everything that I shall have to say in the sequel about descriptions of individuals, predicates true of them and all shall be taken as relative on that language *L* (again, a useful suggestion by an anonymous referee). Wherever convenient, I shall be referring to such descriptions as a series of universal terms or simply universals applicable to/instantiated by the given individual: "John is a grandpa and John is a colonel …" shall be thought of as equivalent to "John is a grandpa and a colonel …," wherever no serious ambiguity is likely to arise (brought to my awareness by an anonymous referee).

[37] Clearly, deductively independent. Why first-order and object-language, though? Because if higher-order and/or meta-language sentences are admitted, then the possibility of one individual's complete description's being transferable onto another is blocked once and for all, for instance by such sentences as: *a* has no properties of the kind *k*; or: Nothing more is true of *a*. This will become more clear in the sequel.

I do not need to discuss the question of what other restrictions would have to be put on sentences belonging to the complete description in my sense. However, let me just touch upon a few problems briefly. Suppose that the given individual is a phoneme; would it be necessary to add to the individual's complete description the sentence "it cannot be eaten"? Or, if it is a moon, would it be necessary to say that it is not a table? To be sure, we have to presuppose that the expressions of the language are unambiguous in the sense that, for instance, if it has been said that the given individual is a phoneme, no doubts arise as to whether the word "phoneme" did not refer to beefsteaks or carrots; or, if the complete description of the given individual contains the sentence "it is a moon", there is no room left for worries if the individual could not, after all, be a table. So much is clear and will be grudgelessly granted on all hands. However, the mere knowledge that the word "phoneme" refers to phonemes does *not* give us any reason to believe that whatever is correctly called a phoneme cannot be eaten. To know this, we have to know a few things about phonemes. (Similarly for moons and tables.) As we have known at least since Poincaré, all pieces of knowledge are woven into webs of knowledge that are parts of yet larger webs of knowledge. It is a separate problem that I cannot discuss now if the complete description of an individual should contain not only everything that can be known of the individual, but, too, all knowledge that is in any way relevant to what can be known of it—any "larger webs of knowledge."

[38] See note 33.

[39] "Unum in alterius locum substitui potest, salva veritate → eadem sunt:" Leibniz' law. "Eadem non sunt → unum in alterius locum substitui non potest, salva veritate:" contraposed Leibniz' law.

[40] This is not to deny that oftentimes something much shorter than a full-blown complete description is sufficient for not being applicable to another individual of the same *primary* kind (see below), as long as it contains the same spatio-temporal coordinates (brought to my attention by an anonymous referee).

[41] "Well, dummy, because certain tuplets of predicates just can't be true of two different individuals at the same time" I hear an indignant Reader reply. "For instance, no two different physical objects can be at the same time and the same space." This brings us back to Brentano, who, as we know for instance from my previous essays (e.g. Żeł. FB and PoI, 154ff.), advocated individuating by space and time. But this principle is not true without qualification: a bucketful of sand and a quantity of water can be at the same time and the same space (the bucket), as can also force fields (see [Johansson Ont. Inv.], 189.) Against my anonymous referee, two force fields can be distinguished, despite both of them being a force field and despite being in spatio-temporal coincidence, namely, by the (individual) force they are fields of. But even if the principle had been true without qualification, it would not destroy my case but lead over to a further question, namely, how individuation is achieved, and in virtue of what it is achieved, by whatever its principle may be (answer: certain (*a priori*?) laws that prohibit that of two different individuals certain tuplets of predicates should be at the same time true). This, as will be seen, is part of the solution here proposed.

tractable version of "the" problem of the principle of individuation[42]—within the traditional framework.[43]

However, in Porphyry there is yet another, which the present proposal has less right to claim as part of its own genealogy, but which led to interesting developments: τῶν γὰρ κατηγορουμένων τὰ μὲν καθ' ἑνὸς λέγεται μόνου, ὡς τὰ ἄτομα οἷον Σωκράτης (*Isagoge*, 2, 17), "for of predicates some are predicated of one thing alone, as individuals, for instance, 'Socrates'," O. F. Owen's translation. Ockham is scornful of this formula: "Ista […] definitio non potest intelligi de re exsistente extra animam, puta de Sorte et Platone […], quia res talis non praedicatur de uno nec de pluribus; ideo oportet quod intelligatur de aliquo signo proprio uni, quod non potest praedicari nisi de uno." (*Summa Logicae* (WoO SL), Part I, ch. 19, 66.) Then he goes on: "Tale autem individuum [i.e. an individual according to the Porphyrian definition as just amended by Ockham] tripliciter potest assignari. Quia aliquod est nomen proprium alicuius, sicut hoc nomen 'Sortes' et hoc nomen 'Plato.' Aliquod autem est pronomen demonstrativum, sicut hic 'hoc est homo,' demonstrando Sortem. Aliquando autem est pronomen demonstrativum sumptum cum aliquo termino communi, sicut 'hic homo,' 'hoc animal,' 'iste lapis,' et sic de aliis." (*Ibidem*.) Now the question is: Why are these expressions, in each case, predicable of at least one "res existens"? Proper names aside, it could seem that expressions as "this man" are predicable of many, but, as Ockham notes, in a proposition it is always one particular man that is meant. But which man? An answer to this question, if it were to be unequivocal in all possible circumstances, would have to be the complete description of the man in question in the sense explained above.

Avicenna in the *Isagoge* to his *Logic* (vol. 1 of *Al-Šifā'*) seems to be skeptical of "individuation" by no matter how long descriptions[44]. Call Zayid tall, a writer, a handsome man, and what not, and you will not specify his individuality or get at his individuated intention. Indeed, the meaning that emerges from this collection of predicates may be true of more than one (being).[45] (Which contradicts Leibniz'

[42] This question should not be confused with another question, namely why can/could (not) the complete description of the given individual be different from what it actually is? If it could or not is a problem of a theory of individuals, which is not my concern here. Most commonsensical accounts of such individuals as Socrates or the British Army would concede that their complete descriptions could be different from what they are.

[43] Apart from the Leibnizian definition of "eadem" quoted above, there is this one by Porphyry: [Ἄ]τομα οὖν λέγεται τὰ τοιαῦτα, ὅτι ἐξ ἰδιοτήτων συνέστηκεν ἕκαστον, ὧν τὸ ἀθροισμα οὐκ ἄν ἐπ΄ἄλλου ποτὲ τὸ αὐτὸ γένοιτο (*Isagoge*, 7, 21–3). In Boëthius' Latin: "Individua ergo dicuntur huiusmodi quoniam ex proprietatibus consistit unumquodque eorum quorum collectio numquam in alio eadem erit". This can, perhaps, be discounted as a criterial property of individuals.

[44] Von Kutschera is skeptical precisely because the descriptions may get much too long, [Kutschera Aesth], 49.

[45] "بل يجوز أن يكونالمعنى الذي يجتمع من جملة بأكثر جميع من واحد " (*bal yağuzu an yakuna alma'na allaḍi yağtami'u min ğumlatan bi'aksar ğami'i min wahidin*) [Ibn Sina Isagoge], I, ch. 12.

law[46]; but this need not detain us here). Avicenna works too with "*materia quantitate signata*", "مادة مشار إليها" (*mādah mušār ilayhā*), literally "pointable-to matter" (*this* flesh and bones), as well as with existence ("الوجود", *al-wuǧūd*) and "reference to an individual intention" ("الإشار إلى معنى ةشخصي", *al-išāra-t-ilā ma'nā šaḫṣī*)[47] but his investigation remains ultimately inconclusive.

And, to finish off the image, here is how Suárez is setting *his* stage: "[I] f we speak of an individual formally, inasmuch as it is in this way one, it adds a negation in its formal concepts. The difficulty concerns the fundament of this negation: What is it in the single and individual thing by virtue of which it has a negation like that about it?" ("si formaliter loquamur de individuo, quatenus tali modo unum est, negationem addit in suo conceptu formali. […] difficultas est de fundamento illius negationis: quid sit in re singulari et individua, ratione cuius ei conveniat talis negatio") ([Suarez Disp. Met. V], 2.7).), because it does not presuppose a comparison between an individual and a universal term, but, rather, a comparison between two universal terms. For *D* is a (possibly very large) universal term if the name(s) of *a* in it have been replaced by a free variable.

Before I go any further, let me, however, address some preliminary questions.

First of all, there is the problem that complete descriptions (in the sense just introduced) are, for individuals such as Socrates and the Moon, rather hard to find.[48] This is true; however, I do not need the assumption that they are abundant. (Nor do I need the assumption that there actually *is* a language like *L*.) This is because the way I am putting the problem is not: Given that for all individuals complete descriptions are available, and given that they are never true of more than just one individual, we desire to know why they are not; my way of putting the problem is, rather, hypothetical: *If* for any individual its complete description were available, and *if* it were not true of any other individual … .

It could, perhaps, seem that complete descriptions of individuals were best seen as limits of series of incomplete descriptions constructed in this way: We start from our individual *a* by giving a description of it; then we find another individual of which the description given is also true; then we add to the description something that is true only of *a* but not of the other individual … and so on. The advantage of this method of thinking of complete descriptions is that it provides us with a method of constructing them. When we say that we wish to have a conjunction of all deductively independent first-order object-language sentences that are true of the given object it is not at all clear just with what we should start building up this conjunction or how we should proceed. Whereas if we are told that we should

[46] Because this would instantiate the scheme "Cum eadem non sint, tamen unum alteri substitui potest, salva veritate," which is the direct negation of the contraposed Leibniz' law (see note 39).

[47] [Ibn Sina Isagoge], I, ch. 12.

[48] I owe this question to Prof. Prechtl of Würzburg University, and to the students in my seminar on the principle of individuation held at Würzburg University in the summer term of 1997.

start with anything and then add to this anything predicates that are true of the object in question but not of other objects that happen to come our way, we seem to be getting a useful hint.

But we only seem so. Because, vast as the domain of what we can know of the given object is, the realm of actual and *possible* objects that we should inspect in the process of adding to the initial description of *a* is much vaster still. For remember, we have to deal not only with what *a* is, but, too, with what it could be or could have been. For this reason, dealing with merely possible (and maybe even some kinds of impossible) objects is unavoidable. Besides, apart from the infinite number of such objects, the trouble is that relying on objects as they just happen to cross our way would be of little use: we should need a lot of ontology, both general and regional, to chart out a map of "reality and non-reality" so that we might know where to look for objects to be contrasted with *a*. Going by what is true *a*, if we have a language that can express everything that can be known of *a* is, after all, easier.

The stage having been set this way, the contrast between individuals and universal terms does not look spurious any more; for instead of talking of individuals, we just changed the topic and started talking about their complete descriptions; such descriptions, however, are couched in universal terms.[49]

4 A few wrong answers

This section is, in sense, redundant, as can be seen from the above heading, for what is the use of studying *wrong* ideas? An impatient Reader may well skip it, if (s)he so wishes. Yet, it also may be instructive in the sense that may help to better understand the nature of difficulties here at issue. So the impatient Reader may choose to skip it now and return to it after having read section 5.

Let us come back to our individual *a* and its complete description *D*. Let us first consider the question whether the above change of topic was at all legitimate. That is, let us ask if for some *b*—an individual different from *a*—*D* could not, after all, be possibly true of *it*. We easily see that it is at least conceivable that it could. For *D* expresses everything that is true of *a*, but it is conceivable that not everything that is true of *a* should also be expressible (for instance the Avicennian "existence" ("الوجود", *al-wuǧūd*), on which existential Thomism à la Gilson has attempted to build whole doctrine[50]). Suppose there is something "in" or "about" *a* that is not expressible at all, and that is not "in" or "about" *b*. Then

[49] And also in individual terms, such as "a son of Sophroniscos."

[50] See [Andrzejuk Awic. źródł.]. But also thought-contents expressed by occasional expressions, such as "I" or "here." A fascinating and still largely unexplored theory of such is to be found in Bernard Bolzano, see [Textor Bolz.s Prop.]. For another strand of thought on "primitive thisness" see [Adams, Prim. This.].

a and *b* are two different individuals, although their complete descriptions are identical, namely, *D*. Leibniz' law would be violated.[51]

However, it appears to me that Leibniz' law would be violated only because we have employed an unduly narrow interpretation of what is allowed to count as a component of *D*. If *a* and *b* are two different individuals, then at least so much is known of each in contrast to the other that it is different from the other. This suffices to make their complete descriptions different and salvage Leibniz' law.

This is fine; however, it does not take us very far with regard to the question of what makes complete descriptions of individuals inapplicable to other individuals, for it amounts to the statement that every such complete description should mention the fact that its object is different from all other individuals. But the seekers for the principle of individuation would like to know just *what* accounts for this difference. Saying that they are different is naming the problem much rather than solving it. Such descriptions would not *pick out* the individuals. Certainly, it is possible to call one of the balls in Max Black's famous thought-experiment[52] *a* and the other *b,* and if "*a*" and "*b*" respectively are part of the respective descriptions, these latter will certainly do justice to the individuals' difference; but the descriptions will not help to pick them out (we shall not know which is which).

A line of thought like the above might have been responsible for a number of things. For instance, for the legend of a putatively "mediaeval" adage: *individuum est ineffabile*;[53] but more importantly also for the long tradition of casting Aristotelian matter in the rôle of the principle of individuation. Since matter is something entirely—in virtue of itself—indeterminate[54] it seems to fill the bill perfectly. As a parenthetical remark let it be noted that another source of the popularity of matter might have been the Neoplatonic origin of the whole problem of the principle of individuation; yet another—the idea that matter is the "ultimate subject", so that material individuals cannot, in contradistinction to universals, be predicated of anything; as Suárez pointed out, the (quite fatal) ambiguity looming large here is that between the rôle of a "subject" in the order of predication, on one hand, and the analogous rôle in the order of inherence, on the other: universals inhere in matter but are not predicated of matter.[55] They inhere *in matter* in the sense that not all ontological components of an individual to which a universal term applies are relevant for rendering the term applicable (those that are not are the individual's *materia signata*);[56] yet the universal terms are not predicated *about*

[51] For a physicalist example see [French&Redhead QP&II].

[52] [Black IoI].

[53] Some say from Goethe, [Schmaus Lebenskunst], 255.

[54] But against this see [Graham Par. pr. mat.].

[55] Cf. [Suarez Disp. Met. V], 3.6f.

[56] The above sentence has the ambition of being an explication of the Aristotelian concept of matter in contemporary language, but it needs an explication and clarification instead. Matter is that which things are

matter, because it is not those elements of the structure of individuals that are irrelevant for the applicability of the given universal term that the term applies to, but exactly the individuals themselves.[57] If Miss Bowthorpe is a solicitor, the correct way of putting it is precisely "Miss Bowthorpe is a solicitor," not "this flesh and blood (which Miss Bowthorpe is made of) is a solicitor."

Unfortunately, matter is also useless inasmuch as it has to be portioned. While it is indeterminate, it is also general. Matter would be of much use if it came in chunks that this and that individual, with identical complete descriptions, were made of. But it does not. One obvious way out of this difficulty is to say that if matter as such does not, *quantified* matter does, after all. Hence the popularity of "*materia quantitate signata*" or "matter determined with respect to it dimensions" or, vulgarly speaking, chunks or lumps of matter, as the *principium individuationis*. But this solution gives rise to other kinds of difficulties, such as for instance that the dimensions of a thing should be there before the thing is there, and others that Suárez put his finger on in his Fifth *Metaphysical Disputation*. Brentano is being mildly sarcastic when he refers to the view that matter is the principle of individuation. His favourite example are two logs of wood that are burning with what to all ends and purposes appears to be the same fire, yet which would have to be counted (if matter as the principle of individuation is to be upheld) as two fires because there are two chunks of matter, viz. the two logs.[58] This example illustrates well the just-mentioned difficulty with matter as a candidate to the rôle of the principle of individuation: it does not come in neatly prefabricated chunks.

If we accept the thesis that for an individual *a* and its complete description *D* there is, can be, or could have been, no other individual to which *D* is, would be, or would have been applicable, then the search for the "principle of individuation" of *a*, i.e., a factor that accounts for this property of *D* can take two distinct directions: that for an "intrinsic principle of individuation," i.e. something that is expressed in *D* itself, or that for an "extrinsic principle of individuation." The talk of a "principle of individuation" purely and simply will, more often than not, involve reference to the former direction, which has attracted attention of most students of the problem. Brentano was one of them, so we should follow him here.

"made of," but whose properties do not "matter" as long as the thing made of it is what it is. We are all made of oxygen and carbon, for instance, but a being made of silicium, say, yet displaying in all relevant respects all and only properties of a human being would *be* a human being; its matter does not matter for its being human, though it may not be totally indeterminate in itself—on the contrary. There is a very interesting practical science exploiting the fact that matter does not matter (as long as it can be informed in the right way): materials science (German "*Materialwissenschaft*", Polish "*materiałoznawstwo*" or "*inżynieria materiałowa*").

[57] Suárez: "individu[um], quod est primum subiectum in ordine praedicationis", *ibidem*.

[58] Brent. KL, 105f.

4.1 A narrowing-down: substance as the principle of individuation

The problem of the principle of individuation would seldom be discussed in isolation from other problems, or outside of any theoretical context, i.e. in the way in which I have, sadly, been discussing it here so far. Often, it was considered in the context of a substance-accident ontology. Brentano did, too, consider it in this context. The concept of substance being one of the most central concepts of Western philosophy, there are various substance-accident ontologies, with infinite subtleties and complexities. For the present purposes, however, these subtleties are of no relevance. It suffices to say that, if you believe in the substance-accident ontology in *any* version, you will want to say that some of the universal terms that apply to *a* express its substantial determinations, while some others express its accidental determinations. These "determinations," whatever else they are, are something "in" or "about" the thing they are "determinations" of, or, if "about" suggests a sort of proximity, something related to the bearer of the "determinations" in a certain way. For instance, if Mr. Jugoslav Marković is a prominent Yugoslav saxophonist, the corresponding "determination" involves all Yugoslav saxophonists and certain relations between them—relations of the sort that make Mr. Marković come out as a better, or at least better-known, saxophonist than most Yugoslav saxophonists.

The contrast between individuals and universal terms holds for universal terms of both kinds, accidental and substantial; however, at least since Aristotle's *Categories* there has been a tendency, among some substance-accident ontologist, to assume that while individuals of the usual sort (Socrates, the Moon) correspond to universal terms that express substantial determinations, there are other kinds of individuals that correspond to universal terms that express accidental determinations—the now fashionable "moments."[59] Without going into any detail or advocating any particular substance-accident ontology, it is possible to make this point plausible in the following way:

Suppose a universal term *t* is applicable to the individual *a*. For instance, "left-handed," or "uncle" or "fiercely anti-French" is applicable to Frank, who is left-handed, fiercely anti-French, and an uncle. Then there is something related to Frank in a certain way, for instance as his part of a sort, that makes this term applicable: some "ground" for the applicability of *t* to *a*, or, in the parlance introduced above, a "determination" corresponding to *t*. Suppose, further, that a substance-accident ontologist has decided that this something is an *accidental* "determination." Let this "determination" then be called "an (individual) accident" that "inheres" in *a*—its "bearer" or "subject" or "substrate."

Suppose, now, that one wants to say that individual accidents are unique, just as their "bearers" are, although in a slightly modified sense: in the sense that if *t* applies to *a*, and expresses an accidental determination, then there is a unique

[59] See [Smith PaM].

individual accident inhering in *a* that makes *t* applicable to it. Let us accept this thesis for the sake of argument, no matter how patent its weaknesses might seem. One very patent weakness is that universal terms now and then apply to individuals because of two or more things—or "determinations"—at once, where just one of these things would have been enough. Frank is an uncle, and he has two nieces: however, one would do for making him an uncle. The relation of unclehood that makes Frank an uncle is instantiated in him twice over; it would take some work, and (let's be frank) a bit of sophistry, to show that the thing that makes Frank an uncle is unique. However, difficulties like this one are of no further interest for the present study; after all it is at least conceivable that the sentence "For a given individual *a*, all individual accidents 'inhering' in *a* are unique" has to be taken as an (implicit) definition of "unique" in the context of "individual accidents," whose criteria of identity are less clear than those of physical individuals. Perhaps we should say that the "individual accident" making "uncle" true of Frank is the totality of circumstances that are in any semantic way relevant for Frank's unclehood, regardless of whether some of them make "uncle" true of Frank by themselves. This is somewhat eccentric, since we should normally say that having one niece is enough for being an uncle, but it also helps to salvage the view that individual accidents are unique, even if in a way resembling more theft than honest toil, to put it with sir Bertrand.[60]

Given this, we get a contrast between individual accidents and universal terms that express accidental determinations, a contrast that is analogous to that between individuals that are not individual accidents and universal terms that express substantial determinations. As a result, the question arises: What accounts for the former contrast? This question expresses the problem of individuation of accidents.

Brentano's solution is that accidents are individuated by "substances," i.e. by the individuals that they are accidents of. If "left-handed" applies to Frank, that something "in" or "about" Frank that makes "left-handed" apply to him is unique because it is "in" or "about" Frank, not Jaime, or Sangeeta. In the semi-technical terminology here adopted: The individual accident that makes *t* applicable to *a* is unique because it is "in" or "about" *a*, not any other individual or other individual, or no individual.

Now, does this doctrine shed any light on the question of what makes *D* not even possibly applicable to any individual but *a* (i.e., on the question: What is the principle of individuation of *a*)? Little, if any. Because for *a* to guarantee the uniqueness of anything that is "in" or "about" it, it has to be unique itself; this, however, we have agreed to regard as implied by the fact that *D* is not even possibly applicable to any individual but *a*. If the doctrine that accidents are individuated by their substances were to explain this fact, the *explanandum* would

[60] [Russell ItMP], 71.

have to be contained in the *explanans*. In general, if we hold that for a universal term *t* (whether it expresses accidental or essential determinations) that applies to *a* there is something "in" or "about" *a* that makes *t* applicable to it, and that this something is unique because *a* is, then on this basis alone we cannot explain the uniqueness of *a*. Why is Frank's left-handedness unique? Because Frank is. But the latter follows from the non-applicability of a description which "…is left-handed" is part of to anything but Frank; why is that description not applicable to anything but Frank? Because, amongst other things, the left-handedness in question is unique…we are obviously running in circles.

For substance-accident ontologists accidental determinations are, however, correlative to substantial determinations. Whatever the latter are, since they are not accidental determinations, and since the uselessness of the tenet "Accidental determinations are individuated by the individual they are determinations of" for explaining the uniqueness of the individual has been demonstrated, it is tempting to assume that it is substantial determinations that can do the trick. Substantial determinations of *a* must not be individuated by *a*, but if so, by what else may they be individuated? One possible answer is to say that they are individuated "by themselves" in the following sense:

A universal term *t* that applies to *a* is individuated by itself if and only if that something "in" or "about" *a* that makes *t* applicable to it is unique with respect to *a*, i.e. if it is impossible that there should be something else that makes *t* applicable to *a*.

Does this help? It appears so; for, if we can assume that *D* has any "substantial determinations" at all, then, it appears, *D* cannot be true of anything but *a* because the parts of *D* that express *a*'s "substantial determinations" are "individuated by themselves." Yet, if we heed the above definition of being "individuated by itself," we see that the presence of such parts in *D* does not keep *D* from being true of at least possible, if not actual, individuals *other than a*. Because that definition does not preclude that there can be other individuals of whose complete descriptions *t* is part. For each of these possible individuals, that which makes *t* true of them is in each case necessarily unique—with respect to *them*, that is.

As a response, the above definition of "being individuated by itself" can be modified in the following fashion: A universal term *t* that applies to *a* is individuated by itself if and only if that something "in" or "about" *a* that makes *t* applicable to it is unique, i.e. if it is impossible that there should be something else that makes *t* applicable to anything.

This revised definition does give what the former failed to give. For now, if *D* contains any terms corresponding to "substantial determinations," then it is not applicable to any individual that does not have the very same determinations. If, in addition, we have the premise that no two different individuals can have the same substantial determinations—which is what virtually all substance-accident

ontologists would grant—we get that *D* cannot apply to two different individuals. The principle of individuation has, for all we can see, been found.

The only problem that remains, however, is that it is difficult to find determinations that are at the same time substantial and individuated by themselves. It is one thing to assume that substantial determinations, *whatever they are*, are individuated by themselves, and another to actually find substantial determinations of which this assumption is true—or else, determinations individuated by themselves. Various traditional candidates to the title of a substantial determination do not qualify, because they are, clearly, not individuated by themselves in the sense here presupposed. Suppose, for instance, that Duro is a man. "Man" has traditionally passed as a word, or rather, as *the* word, that expresses a substantial determination of whatever the predicate "… is a man" is true of. Now is that which makes this predicate true of Duro necessarily unique? Clearly not; for if it had been, "man" in "Duro is a man" and in "Richard Rorty is a man" would have been equivocal, as is "crane" when applied to construction-site cranes and water-birds.[61] This, however, only under the assumption that Duro and Rorty are different individuals. But suppose that by all kinds of traditional criteria Duro and Rorty *are* two different individuals, *viz.* two different men. Then we either accept the doctrine here presented and agree to say that "man" is applied in a different sense to Duro than to Rorty, or insist that "man" is applied in the same sense to both; in which case we have, however, to reject the doctrine here presented.

There is a further difficulty, though, logically prior to the former: It is difficult to find terms that are such that the corresponding determinations could be believed to be individuated by themselves. "Duroizes" is a possible candidate, if it is true only of the things of which the complete description of Duro is true, but for one thing we do not know—unless Duro be something very simple—what "duroizes" actually stands for, and for another, and more importantly, the determination of "duroizing" doesn't help us with the problem of why complete descriptions of Duro are not applicable to other individuals; it only repeats this problem.

Now it appears that spatio-temporal location, of all things, *is* an excellent candidate to the rôle of a self-individuating determination. For suppose that we can express the spatio-temporal location of things in general terms[62] and absolutely, i.e., not with respect to any other thing. Then there is—or so it appears, at least—no sense in which the same or any other thing could have a different spatio-temporal location that would have been expressed in the same terms. If there had been any such sense, it would have been meaningful to hypothesize about the spatio-

[61] Man-Duro and man-Rorty would then be quite a different thing.

[62] As pointed out by an anonymous referee, spatio-temporal locations are not, strictly speaking, universals. They are individual places-at-a-time. Yet as distinct from substantial individuals, they are perfectly describable in universal (mathematical) terms; there is nothing "ineffable" about them.

temporal location of a thing as something that makes the universal terms that express the location applicable to the thing and yet as something that can, could be, or could have been, different from what it is. No individual, it appears, can have one and the same absolute spatio-temporal location in two different ways, as Frank can be an uncle with respect to one, and with respect to the other, of his nieces. On the other hand, if an individual has a given absolute spatio-temporal location, then all individuals that could have had it too would have had it in virtue of the same circumstance, namely being at the same place at the same time. Or so it seems, at least, under the presupposition that absolute spatio-temporal characteristics of objects can at all be provided.

However, we ought not to forget that spatio-temporal location—if it is to be a solution of the problem of the principle of individuation along the lines traced out above—has *also* to be a substantial determination. And according to most substance-accident ontologies substantial determinations have the function of fixing the identity of individuals that have them; that is, if *a* and *b* have different substantial determinations, then they are different individuals. It follows that if spatio-temporal determinations of a spatio-temporal individual are its substantial determination, then the individual cannot have, could not have, and could not have had, any spatio-temporal determinations different from the ones it actually has had or will have. In particular, no man could have been, at a given time, anywhere else than it actually has been—which seems absurd. It would then be an illusion to think, for instance, that you could have been somewhere else now, if you only had chosen to. This view does not commit us to saying that it is an illusion that someone quite like you could have been at another place now; it simply does not commit us to any opinion on this matter. But it does commit us to affirming that the person quite like you would not have been you.

The absurdity of this view is in Brentano somewhat mitigated by the fact that he seldom if ever uses examples of such spatio-temporal objects as people, or planets. More often, he picks out examples like that of coloured areas, for which it might appear plausible that they would have been different individuals if they had been somewhere else at a given time.[63] However, it is not at all clear why coloured areas should be particularly prominent examples of spatio-temporal individuals. Brentano might not have believed in the existence of spatio-temporal objects at all, so what he did was, perhaps, just toying with various ideas which he saw no point pursuing all too far.

In one respect, however, Brentano was certainly right: spatio-temporal characteristics certainly *are* something to go by as far as distinguishing individuals from each other is concerned.[64] Most spatio-temporal objects are such that no two of them can have the same spatio-temporal location. Brentano even thought that

[63] E.g. Brent. KL, 76.

[64] But this is an answer to Regis' question number 3, see the beginning of this essay.

that was true of all spatio-temporal objects. Spatio-temporal location can, therefore, be dubbed "an epistemological principle of individuation" if this name should not be misleading. But maybe it is best to follow Gracia and keep the issues of the principle of individuation and of the discernment of individuals neatly separated.

On reflection, we see that all kinds of solutions of the problem of the principle of individuation in our version that fall within the pattern "substantial determinations that individuate themselves" will give rise to the same problem: Because the determinations in question are substantial, an individual that has them must not have, or have had, any others on pain of being another individual or no individual at all, and at the same time they might not be shared with other individuals, not even in the sense that the general terms that express them apply to other individuals. In this way, individuals come to be seen as "fettered" to their substantial determinations and "fenced in" within them. An ontology that accommodated this would be hard put to explain why there is a considerable stock of knowledge, both scientific, "regimented," and common-sense, that is universal, i.e. applies to all individuals of a certain kind. On the other hand, for all kinds of ontologies that do explain that the hope of finding determinations of individuals that are both substantial and self-individuating might well be rather illusory. There comes to mind the slightly indignant tone with which Avicenna introduces the problem of the principle of individuation into Western metaphysics: "For we have frequently said: Lo, that by which the individual in its individual [*sic*] is constituted and achieved is another thing than that by which the nature of the species is constituted."[65] Friends of individuating substances would have been well advised to heed *that*.

But enough raising difficulties. Let us now squarely and honestly face this question: What could be a correct answer to the problem of the principle of individuation? I shall here propound what I think is an outline of a correct solution.

5 The right answer to the right question

As is often the case, part of the solution is concealed in the problem itself. For if the question is "Why is the complete description of an individual not even possibly true of any other individual?" then a quick answer can be: "Because it is complete." If *D* is the complete description of *a*, and if it were true of a different individual, *b*, then just in what way would *b* be different from *a*? If it were different from *a* in such a way that the difference were expressible in a universal term or a string of such terms, then *D*, while being the complete description of *a*, would be only an *incomplete* description of *b*. If, by contrast, *b* were different from *a*

[65] In the Arabic original: إذ قَلْنَا مِرَارًا: إنَّ مَا يَتَقَوَّمُ وَ يَتِمُّ بِهَ الشَّخص فِي شَخصِهِ هُوَ غَيرُ مَا تَتَقَوَّمُ بِهَ طَبِيعة اَلنَوع (*ʾiḏ qalanā mirāran: ʾinna mā yataqawwamu wa yatimmu biha ʾl-šaḫṣ fī šaḫṣihi huwa ġayru mā tataqawwamu biha ṭabīʿat al-nawʿ*) [Ibn Sina Al-S.], 250 (bk. V, ch. 7).

in an inexpressible way, then we should be hard put to say anything reasonable about *b* as distinct from *a*, and the problem of the principle of individuation would not arise, not because it were a non-problem, but because it could not be intelligibly articulated. Since this appears difficult, however, we above agreed to exclude the possibility that the difference between any two different individuals should be inexpressible (see section 4). So we have this situation, after all: *D* is the complete description of *a*, but, while it holds of *b*, it is not the *complete* description of the latter. In a situation like that, one would be tempted to say that *a*, while it is an individual in its own right, is also "in" *b*, and this would mean that it is *not* individuated. The searched-for *principium individuationis* is, therefore, whatever prevents this from happening. Why could *D*, in particular, while being the complete description of *a*, not be part of the complete description of *b*, where *b* is an individual different from *a*?

One answer that suggests itself easily is this: Suppose that the complete description of *b* that contains *D* as its proper part contains a certain component *t* that is not contained in *D*. This means that *t* is not true of *a* (by definition of "complete description"). If, now, it can be assumed that for a component of a description not to be true of an individual is equivalent to its negation's[66] being true of the same individual, then the negation of *t* is contained in *D*; from which it follows that the hypothetical complete description of *b* is contradictory.

However, it can be argued that an assumption like that, namely, that for a term not to be true of an individual is for its negation to be, cannot be made, for it can be argued that certain terms are not true of certain individuals not because their negations are, but because they are not applicable to these individuals at all. Clearly, this is the case with predicates like "has stopped beating his wife:" John has never beaten his wife; for this reason "has stopped beating his wife" is no part of any description of John, no matter how exhaustive, but not because it is true of him that he has *not* stopped beating his wife. To give another, a bit more *recherché* example: No matter how long a lecture is, it is never true that it is seven miles long. Yet, saying that a lecture was not seven miles long has a peculiar ring to it and it might be argued that it is wrong: It can be said that "seven miles long" is not true of any lecture not in the sense of its negation's being true of all lectures, but in the sense of its not "being in the market" for being true of any lecture at all. Another example might be something like "made chiefly of oxygen" with respect to individuals such as "the twelfth British monarch as such," if one should insist that individuals of this sort exist: One might argue that while it is true of Elizabeth II of Windsor that she is made chiefly of oxygen, it is not true of the twelfth British monarch; not because it is not made of oxygen (but, say, of nitrogen, instead), but because oxygen and other chemical elements are not at all in the market for being that from which the twelfth British monarch

[66] More precisely, for the negation of the predicate formed with it.

is made: if anything, it is made from the history of Britain, various sacramental gestures, dignities, the Stone of Scone, and other *regalia*. I shall not attempt to decide if these examples are well-selected, instead, I shall explain why, even if they are, it is still impossible for the complete description of *a* to be proper part of the complete description of *b*.)

For this purpose, I need three hypotheses that I shall introduce as I go. They are, contrary to what they look like, meta-individual-theoretic theses, as I do not have any theory of individuals to offer—so what follows is going to be about a hundred merely imagined thalers, so to speak. Presenting my hypotheses in the meta-individual-theoretic style, though, would be too complex and too distracting. They stake out an area of what can count as an individual at all.

Hypothesis 1. If a has actually been picked out, then it is possible to determine what kind of individual it is, or what kind of individuals a instantiates.

This sounds like mild Aristotelianism and a doctrine of "substantial determinations," "forms" or "essences" and, indeed, I think that the proposal here set forth is not at all unrelated to the doctrine of substance as expounded in book Z of the *Metaphysics*. However, at the present stage I do not need any assumptions as to what kinds of individuals there can be, how these kinds relate to each other, or how they ought to be expressed; I do not need, for the time being, as little as the assumption that for each individual there is only one "lowest" kind (*genus infimum)* that it instantiates. I do not require, either, that the answer to the question "What kind of individual is *a*?," once *a* has been correctly or erroneously identified as an individual, should mention the one from among all the kinds that *a* instantiates that is in any way "essential" to *a*. In the contrary, I see no reason why we should not admit that in most cases an answer like that would make reference to a kind that is most striking or has some other sort of epistemic, or even purely aesthetic, rather than ontological, priority.[67] Nor do I need the belief that there is no such kind of individuals as "bare individuals." All I need is the assumption that if we actually have an individual, we can say what it is, rather than say that it is nothing in particular; and this assumption will, as I hope, be granted on all hands.[68] Let *k* stand for a universal term, or a complex of such terms, that express the kind of individual that *a* happens to be.

[67] Suppose, for instance, that while I am watching television my attention is distracted by a factor the nature of which escapes me. If I have decided that the factor in question is an individual at all, I can at least say this much: this factor is an attention-distractor.

[68] I suppose, but I am not absolutely positive, that Hypothesis 1 is in some rather direct way related to what Locke says in his *Essay on Human Understanding,* i, 15: "… it is being evident that things are ranked under names into sorts or species only as they agree to certain abstract ideas, to which we have annexed those names, the essence of each *genus*, or sort, comes to be nothing but that abstract idea which the general, or *sortal* (if I may have leave so to call it so from *sort* as I do *general* from *genus*) name stands for."

Hypothesis 2. Given that it has been established that *a* is an individual of the kind *k*, it is in principle possible to say *which k a* is. I say "in principle" because in an actual case, it might not be possible to say for instance, which Greek poet Homer was, or which Sumerian king the bearer of some dynastic name was. In any case, if, as assumed, *D* is a description of *a* that contains everything that is true of *a*, and if "(*a* is) a *k*" is a component of *D*, as by definition of *D* it should, then *D* also has certain other components, namely, sentences of the form "*a* is a k_i" (where $i \in I$, *I* being a set of indices) which jointly determine which *k a* is.

Now if *D* expresses all kinds that *a* is and for each of such kinds tells which individual of the given kind *a* is, then *D* cannot apply to any other individual that instantiates exactly the same kinds. That is, on the object-level: If *a* is some definite k_i, then it could well be some other k_i, were it not for the fact that it is some definite k_j that it happens to be.

This follows from Hypothesis 2; however, it is worth-while reflecting on why, exactly, this hypothesis should be true.

It is true in virtue of various ontological facts, such as that there *are* individuals, and various epistemological facts, such as that individuals are identifiable to and by knowing subjects and that it is possible to fix reference to them. These are things too deep-sitting and too fundamental to go into here; they smack of the Scotian *haecceitates* and similar weaponry. But that Hypothesis 2 is true is not due to, but reflected in, the following linguistic fact:[69] When we speak of an individual of a certain kind we mean a class which has members, such that they are, in principle at least, distinguishable and that it is, in principle at least, possible to say which individual of the given kind the given individual is. In cases where this would appear not to hold, we usually assume that no individual is meant. To see that this is the case, try to make sense of the following dialogue:

A: "The individual that I mean is soap;"
B: "You mean a cake of soap, or a soap-bar?"
A: "No, I just mean soap;"
B: "Oh, you probably mean soap crumbles, or maybe what is left of a soap-bar after it's been being used for a while; this sort of thing?"
A: "No, I just mean soap;"
B: "OK, so you mean a collection of soapy things in various forms and various stages of being used up?"
A: "No, I just mean soap;"
B: "Then maybe some particular portion of the stuff of soap, regardless of shape?"
A: "No, just soap."

[69] This distinction was suggested to me by an anonymous referee.

The nonsensicality of this dialogue resides in the fact that A pretends to have an individual of a sort in mind and to know what kind of individual it is, but keeps shooting down all attempts to find out just which individual of that sort the individual that he means is. The right reaction on B's part would ultimately be to give up and say something as: "No mate, you don't really mean *any* individual."

The linguistic fact here described could not, however, obtain, if there were not, for every kind of individuals *k*, definitions, logical, mathematical, ontological and empirical laws—*pieces of a theory*,[70] as I shall call them here for short—that make it possible for certain universal terms that apply to an individual of the kind *k* to determine unequivocally which individual of the kind *k* the individual at issue is. The pieces of a theory at issue need not be such as to pertain to *k* only or to kinds that are in a way subordinate to it. For instance, if we know that *a* is a "red one," we have to take into account a number of other kinds that *a* instantiates—kinds that are in no way subordinate to the kind expressed by the adjective "red." (At least on a common sense view on which there are no such things as "red things purely and simply.") The existence of the pieces of a theory at issue explains, however, why *D* is, as soon as it contains certain terms, complete in the *weak* sense that it could not apply to any other individuals of the kinds mentioned in *D*; they do not, by themselves, explain what we are seeking to explain, though, namely why *D* is complete in the strong sense of not being possibly applicable to any other individual of *any kind?* That is: Why could not there be another individual, *b*, that were of the same kinds as *a and* also of some others to which *D* were, too, applicable (of which, too, it held good)?

It could seem that this possibility is excluded by the weak completeness of *D* just mentioned. For if *b* instantiates all the kinds that *a* does, and if for each of these kinds it can be decided which instance of the given kind *b* is, then, if *k* is a kind that *a* instantiates, then *b* is the same instance of *k* as *a*. This is all right as far as it goes; but our question is: Why should *a* and *b* be the same, not just instance of this or that kind, but, *individual?*

Much depends on whether what you mean by "instance" is "individual that instantiates."[71] If you do not, then your answer to the above question has to be, on this stage: "Well, it need not at all be the same individual." In this case, see my Hypothesis 3 below. If you do you might well be puzzled about why my Hypothesis 2 should at all be true: Is it really possible, you might wonder, to establish, for any individual that instantiates a certain kind *k*, which *k* the given individual is without looking at what other kinds the individual instantiates? My answer is: No; but I have never claimed that it is. At the stage of Hypothesis 2 I have simply left

[70] In fact, pieces belonging, in most cases, to different theories; for this reason, just pieces, not an integral theory "in a piece." I borrowed "pieces of a theory" from Barry Smith and Kevin Mulligan, http://ontology.buffalo.edu/smith/book/P&M/pieces.pdf, 15.

[71] And this, in its turn, depends on what your theory of individuals, kinds, and instances is; none of my concerns here.

the matter undecided; as a result, the distinction between the weak and the strong completeness of complete descriptions has appeared worth making. It is; but for merely didactic reasons. Why there can be no weakly-but-not-strongly complete descriptions of individuals will be patent from my Hypothesis 3.

Hypothesis 3 is the most difficult of the three; I shall, for this reason, prepare the ground for it by means of examples; if the Reader finds some of them rather confusing than helpful, he/she may well skip them. All of my examples will, admittedly, look a bit far-fetched, but the very possibility of individuals whose descriptions would be insertable into each other is far-fetched itself (is no part of common-sense philosophy); dismissing it out of hand would, however, be premature.

Let us then, by way of an example, consider a golden ring, on one hand, and the lump of gold it is made of, on the other. There are two complete descriptions, that of the lump of gold, and that of the ring. Let us assume, for the sake of argument, that (we have independent ontological grounds to assume that) the lump of gold and the ring are two different individuals—for instance, under the pretext that the ring would have been the same ring even if it had been a different lump of gold, or under any other pretext. Could it not be the case that the complete description of the lump is true, not just of the lump, which it by hypothesis is, but, too, of the ring? We can make this appear plausible by further assumptions. One of these assumptions could be, for instance, that the lump of gold came into being and went out of existence exactly in the very same moment in which the ring did.[72] More importantly, however, we should also assume that the universal terms that are true of the ring (terms that describe its shape, for instance) are not true of the lump of gold in the sense that they do not apply to it at all, and *not* in the sense that their negations are true of the lump of gold. The lump of gold as such is (let us assume for the sake of argument) shapeless.[73]

The complete description of the lump of gold is, as a result, proper part of the complete description of the golden ring. The lump of gold seems to be "doubly instantiated:" in itself and in the golden ring,[74] which is exactly what it, as an individual, must not be. What went wrong?

The answer is: Wrong was the assumption that the complete description of the lump of gold was true of the ring in the same way as it was true of the lump of gold. Why? To explain this, we do not need to dismiss the idea that there is such an individual as the "lump of gold purely and simply," the lump which is not a ring, so that there is nothing for there to be the complete description of. Clearing up the issue if there are any such individuals would the proper task of a theory of

[72] Several bits of gold were lumped together to form the ring and the ring ceased to be in that the lump was again disintegrated, say.

[73] To avoid all associations with form terms, we could have spoken of, say, an *amount* of gold, instead of a lump. Lumps, however, seem to have been around for longer.

[74] One is willy-nilly reminded of Shakespeare's words: "You should live twice: in it [your child] and in my rhyme," see above.

individuals, in which I am not currently interested. Neither need we be disturbed by the notion that the "ringy" universal terms should be inapplicable to the "lump of gold purely and simply." The problem is not *whether* there is any such individual as a lump of gold to which form predicates, such as "…is a ring," are inapplicable: The problem is, rather, that *if* there is an individual like that, its complete description applies to it in a sense that is different from that in which it applies to the ring. In other words, there are *two* descriptions, superficially seen identical, of which the one applies to the "lump of gold purely and simply" and the other to the lump of gold as a *sui generis*—material basis—component of the golden ring. We say: "This lump of gold is a lump of gold such that …" (here follows the explanation which lump of gold the lump of gold in question is, as a matter of principle always possible, Hypothesis 2), and "this ring is a lump of gold such that …" (and here follows the explanation which lump of gold the ring in question is), but the (same) ring could have been a different lump of gold than the one that it is, whereas the lump of gold could obviously not. The "is" that we have here occurs in two different senses (τὸ ὂν λέγεται πολλαχῶς[75]), and hence the equivocal character of the expression "the lump of gold" as employed here. For the present line of thought, it is irrelevant what these two senses of "is" are, but it might at least be surmised that the first one is "is identical with," whereas the second is "is made of."

Equivocations like that will typically arise when there are two objects that are tied up with each other in a certain peculiar way, such as the one's being rough materials for the other, and many others still.

Here is another example: Let us be ontologically generous and assume—in the spirit of an "institutionalism" (in legal philosophy) *à la* Maurice Hauriou or Santi Romano, say—that there is such a thing as a "sales manager purely and simply" that is not a human being and to which terms that are applicable to human beings as such (man, woman, intelligent, six feet tall, father of a violinist, stamp collector, and the like) are not applicable. Sales managers of this sort are defined *solely* in terms of their companies and the place that they occupy within the organizational network of these companies.[76] Now suppose that we have the complete description of a sales manager like that, including a specification (Hypothesis 2) which sales manager it is (in which branch of which company *etc*.) Can it be the case that this description is (proper) part of the complete description of a different individual? Yes, there is a Babette, say, who for better or worse happens to be ("be" in the sense of: being cast in the rôle of) this sales manager. Yet Babette is (in the sense of what she substantially, essentially, for lack of a better word, is) a human being, which is not true of the sales manager, not because it is a dolphin or a bacteria, but because, as stipulated above, terms of this kind

[75] Aristotle, *Metaphysics* 7 1028a 10. On this topic, [Żeł. Being in 1 sense] may be of some lateral interest to the Reader.

[76] A similar distinction can be drawn between "monarchs as such" (as the twelfth British monarch, for instance) and human being who play these rôles.

are not at all applicable to it. We have run into the same problem as before: the same individual is instantiated twice over: in the sales manager, and in Babette. To which the answer is: Babette is the sales manager not in the same sense of "is" in which we say that the sales manager is the sales manager. The latter is that of plain identity, the former—something like "plays/is cast in the rôle of."

As with the lump of gold and the ring, if we believe in the existence of such individuals as "lumps of gold purely and simply" or "sales managers purely and simply," we have the following strange situation in front of our eyes: There is a certain individual that is a ring, or a human being. The ring happens to be made of a certain definite lump of gold, and in this sense "is" a lump of gold. The human being plays a certain definite rôle of a sales manager, and in this sense "is" a sales manager. There is, furthermore, *another* individual (*not* the same one, instantiated twice over) that is (essentially, to use an old-fashioned term) a lump of gold (but is not *made of* a lump of gold), or a sales manager (that does not *play the rôle of* a sales manager). Since both individuals: the ring and the "lump of gold purely and simply" (or the human being Babette and the "sales manager purely and simply") are a lump of gold, or a sales manager (respectively), we imagine, oblivious of the polysemy of "are" as, this word is employed here, that the complete description of the latter is univocally true of the former.

To take a possibly less far-fetched and in any case simpler, more hands-on, example: Someone could argue that everything that is true of this particular graphic ornament printed directly under this line:

ornament

is also true of the above token of the word "ornament." The word—strictly speaking, the occurrence (token) of the word—"ornament" here is an ornament, too. Yet the ornament could have been there even if the word had not (in a world in which there is no Latin alphabet, say[77]); so the thesis that these are two different individuals is not as wild as the similar theses for the ring and the sales manager might have seemed. It seems that this one is a genuine case of two different individuals one of which is "inserted" into the other. However, on closer inspection we see that "… is an ornament" is true in quite a different sense of the ornament than it is of the word. For the word could have been a different ornament or no ornament at all, whereas the ornament could not. The "is" of "… is an ornament" as applied to the ornament is an "is" of identity, as applied to the word it is not; rather, it is short for "…is expressed in/by…" or "…serves as…" or the like.

In all of the above examples we have the following situation: there are two individuals, *a* and *b*, both of them instantiate a certain kind *k*, and both appear to be

[77] Or in the world where the Latin alphabet is not known; to us, Arabic inscriptions are meaningless ornaments, arabesques, whereas for those who know the alphabet they are strings of words.

the same instance of *k*—yet, they are different individuals, for instance, the lump of gold that the golden ring is is a different individual than the lump of gold purely and simply. On closer analysis, it turns out that *a* and *b* instantiate *k* in two different "ways" or modes, which obviously have not made it to their respective complete descriptions, for whatever reasons. Now, the information that *a* and *b* instantiate *k* in the way they do can be derived from the information that each of them instantiates a certain other kind (call it k_a and k_b, respectively) in a certain special way: Namely, in such a way that every individual that instantiates k_a (k_b) (and, consequently—Hypothesis 2 with its corollary—is the same instance of k_a (k_b) as *a* (*b*)), not purely and simply but in the same "way" is, too, the same individual as *a* (*b*), no matter what other kinds it instantiates.[78] This has paved the way to my

Hypothesis 3. Let *a* be an individual that instantiates kinds k_1, k_2, … k_n … . Amongst these kinds there is at least one ("privileged") kind k_i such that for every individual *b*, if *b,* too, instantiates k_i and does so in the same way as *a*, then *b* is also the same individual as *a*. There are "pieces of a theory"[79] that allow us to say, on the basis of the fact that *a* instantiates the privileged kind *k*, in what way *a* instantiates the kinds k_1, k_2, … k_n …k_i.[80]

For instance, if k_i is "human being", there are pieces of theories to explain in what way *a* can possibly instantiate other kinds it happens to belong to, for instance "sales manager," "really bad boy" "something to eat," "obstacle in your escape path" and the like. For many, perhaps most, of these ways of being something-or-other there are no handy words substitutable for "is:" "… plays the rôle of …," "… behaves like … ." The Reader may try for her/himself.

I shall call such privileged kinds *primary kinds* of individuals. Hypothesis 3 says that every individual has a primary kind.

The first part of my Hypothesis 3 may or may not seem very controversial. After all, if we have an individual before us (no matter what our theory of individuals is) we must somehow accommodate the fact that despite being an instance of so many different kinds, and despite the fact that it can be, could be, and could have been, an instance of even more kinds, it is *one* individual, not a

[78] To avoid making nonsense of this, please bear in mind that I am *not* identifying "being an instance of a kind" and "being an individual that instantiates a kind." The lump of gold and the golden ring are the same (instance of the kind) lump of gold, yet not the same individual. Being an instance of a kind is, in this sense, something less than being a (full-blown) individual.

[79] Again, *pieces* rather than a theory "in one piece," because, traditionally speaking, an individual instantiates all of those various kinds accidentally (except the privileged kind, which it instantiates substantially). Yet for various reasons I did not wish to dwell much on this traditional way of phrasing my solution.

[80] The information concerning the ways in which a kind is instantiated by the given individual may or may not be contained in the complete description of the individual. This depends on your theory of descriptions. If this information is contained in the description, nothing is lost and everything that I am going to say carries over in a natural fashion. But my guess is that for the most part the information will not be contained in the description as it does not, strictly speaking, belong to the level of the description; its place is the meta-level.

heap of individuals.[81] The only "trick"—some would say, a "fishy" concept—that I introduce here is the concept of the "way" in which an individual can instantiate a kind (I regard this concept as primitive here, though I hope I have made it sufficiently clear by way of examples). This is necessary because if we say that an individual is a *k* (where "*k*" stands for a specification of a kind), we can, as we have seen above, mean various different things by "is."[82]

The second part of my hypothesis says that if we know what the primary kind of the given individual is, we can establish in what ways all the other kinds are instantiated by *a*.

Now let us go back to our original question: Why is *D*, the complete description of *a*, strongly complete in the sense indicated above, i.e. that it cannot fit any other individual of *any* kind? Suppose that *D* has been embedded into the complete description of a different individual, *b.* According to Hypothesis 3, we can find out[83] what the primary kind of *a* is. No matter what it is, however, there are two possibilities: either this primary kind, *k*, is instantiated by *b* in the same way as is *a* or it is not. In the previous case, *b* is, according to Hypothesis 3, not a different individual from *a*; in the latter case, *D* (part of which is "…is a *k*") is only *equivocally* true of *b.* In other words, *D*, as it is true of *a*, is not true of *b,* it is not true of it in the same "way." The individuality of *a* is thereby salvaged—due to the pieces of theory that decide in what way the given individual instantiates all the various kinds that it instantiates, given that some specific kind is its primary kind.[84]

It is *them*, *plus* the fact that there are other pieces of a theory, mentioned above, under Hypothesis 2, *plus* the fact that individuals have primary kinds, that can be called the true (epistemological) "principle of individuation." Thus,[85] the looked-for principle turns out not to be any element of the ontological constitution of the individual itself, nor any such thing as a god or the reality in its entirety.

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[81] Unless, that is, we champion a theory of individuals that does not admit of multi-kinded individuals, in which case the problem of how all that can be just *one* individual does not arise, in the first place.

[82] I owe this insight to Wiggins (Wiggins SaS, 30ff.).

[83] In the sense that there is something to be found out, not necessarily in the sense that this finding out is within our epistemic powers.

[84] In contrast to what the lump-of-gold-and-a-ring or sales-manager-and-human-being examples might have suggested, *D* may even be a complete description of *b.* It is conceivable that a complete description of Babette is identical with a complete description of the sales manager (a rôle filled by Babette)—after all, the latter description must contain a mention of what he sales manager is made of, even though the "stuff" it is made of (human being) is quite accidental for the ontological constitution of the sales manager as such. And the sales manager (which Babette is) is (currently) the same sales manager as the one that is currently filled by Babette; nay, not even just currently: the position may have been created for just Babette and be "tailor-made" for her; yet the primary kind is different: "a human being" here, "a sales manager" there.

[85] What follows "thus" is an explanation of what mean by "epistemological (principle of individuation)" (an anonymous referee took issue with my calling my solution an *epistemological* principle of individuation). I simply meant by that that the principle I mean is various things that we *know* about individuals, not a building block of individuals themselves, *à la* Scotian *haecceitas* and such, and something that helps us to *explain* why we cannot *truly say* certain things of individuals. Perhaps the matter would not be worth so much while if the difference between ontology (what is) and epistemology (what and how can be known) were better heeded in contemporary philosophy.

It turns out to be something nothing "in" or "about" the individual itself. It turns out to be a superposition of various general facts.

To see how my solution works, let us have another look at our examples:

This situation can be viewed, from the perspective of my Hypothesis 3, in this way: When we talk of "the" lump of gold, or "the" sales manager, we are ambiguous (or just confused) about *which* individual we actually mean: the one whose *primary kind* is: a lump of gold, or a sales manager, respectively? Or the one whose *primary kind* a golden ring, or a human being? (And the same question arises for the ornament that is the word "ornament" and the word itself.) It is because of this confusion that we run into the problems like the one with the ring that at the same time is, and is not, a certain lump of gold, or the one with Babette who at the same time is, and is not (though not in the same sense of "is"), a sales manager, or the one with the ornament and the word? Once we have made up our mind as to which the primary kind of the individual we mean should be, the problem dissolves into thin air.

Here is another insight that my Hypothesis 3 affords us: Up to now I have been pretending that it is possible for two different individuals to be "the same" instance of a kind, *k*, which they both instantiate, provided they instantiate it in a different "way."[86] Babette, who is a sales manager, is "the same" sales manager as the sales manager that she is, it could seem, although she (a human being) is a different individual than the sales manager (a position in a business). Yet obviously, the identity of a human being who happens to be a sales manager depends on quite different criteria than those which rule the identity of a professional position in an enterprise. To see this, it is enough to rephrase the above a little: Babette the sales manager is the same sales manager as the sales manager which Babette happens to be cast as. Is that true? Here, the answer is less than most straightforwardly intuitively obvious: it all depends whether you mean "sales manager" (in its first occurrence) *qua* sales manager ("sales manager" as primary kind), in which case the answer is a "yes," "Babette" being just an oblique way of referring to a definite position in a firm, or if you mean "sales manager" as a non-primary kind of what primarily instantiates the kind "human being," in which case the answer is a "no," because the sales manager which Babette is cast as is *not* primarily a human being at all, let alone one identical with Babette. In such questions as "Is Babette the same sales manager as the one who was so nice, friendly and helpful to me yesterday?" the latter is meant, of course ("sales manager" as a non-primary kind of what primarily is a human being), and this is the reason why the very idea of this sales manager's being the same as a sales manager as an abstractly defined position in a firm sounds weird. The choice of the primary kind has here been made implicitly—perhaps because human beings (*qua* such) are still—goodness only knows for how long yet—more important to us than are sales managers

[86] See note 78.

(*qua* such)—and it is perhaps not at all possible to decide whether an instance of a kind is the same instance as some seemingly different instance of this same kind without beforehand deciding which *individual* it is supposed to be; and this presupposes, this is the upshot of all this, a choice of the primary kind which the "two" instances can or must be taken to instantiate. Now the fact that such choices are sometimes made implicitly or tacitly is explainable, perhaps, by the circumstance that some such kinds are more basic than others… but let us stop here lest we be diverted into more Aristotelian essentialism than is here desirable.

Postscriptum

An anonymous referee of this essay has defied me to provide a "clear and simple" explanation of the impossibility of spatio-temporal coincidence of two individuals belonging to exactly the same kinds, as well as of Black's puzzle.

As for the former, without embarking on a full-length discussion, I should like to observe that, e.g., a golden ring (that secondarily instantiates the kind "lump of gold"[87]) and a lump of gold (that secondarily is a ring[88]) can very well coincide spatio-temporally. Spatio-temporal coordinates are instrumental at establishing (Hypothesis 2) just *which* lump of gold/ring the given thing (about whose essence we at this stage need not and may not be clear) is, but before we set our mind on either kind as the primary one we are free to see "the thing" now as a ring, now as lump of gold (a sort of ontological duck-rabbit à la Wittgenstein). But once we have decided "the thing" is primarily (Hypothesis 3)[89] one of the two (typically: a ring) the two individuals collapse into one.[90] Why not two rings? There are general facts (expressed in mathematical formulas) precluding two toroids from occupying the same space at the same time. But a ring can be conceived, perhaps, as a toroid-cum-a-social function, such as a wedding ring that at the same time is a heirloom-of-my-grandfather ring or some such; in which case there might be two (primarily) rings on the basis of the same lump of gold. But are such rings-cum-a-social function spatio-temporal objects, as I stipulated at the outset that these considerations would be restricted to? The same doubt can be raised with regard to another example that easily suggests itself, viz. the two natures of Christ, coexisting spatio-temporally in Christ's person. Moreover, traditionally, a nature (φύσις) was not regarded an individual in its own right.[91] I hope this is clear and simple enough.

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[87] But not in the same "way" in which the lump of gold instantiates it.

[88] But not in the same "way," or the same sense of "is," in which the ring is it.

[89] Or "essentially," "substantially" in the traditional idiom.

[90] If this looks like magic: I asked the Reader to assume there were two individuals "for the sake of argument" (twenty-two paragraphs above, including the heading "Postscriptum"), never committing myself to the belief that a lump of gold is really an individual on a par with a ring (but never disavowing this belief, either).

[91] See [Żeł. D. Würde].

With regard to the latter—Black's puzzle—I am not sure if my solution can, or need, at all be supposed to work for it. It works for cases where a complete description of one individual cannot be true of another, whereas Black's puzzle takes its starting point in a "… universe [which] … contained nothing but two exactly similar spheres … each …was made of chemically pure iron, had a diameter of one mile, … the same temperature, colour, and so on, and … nothing else existed"[92] which voids the hypothesis of a situation to which my solution pertains.[93] But it is natural to ask "and what if non-p?" someone who tells us "if p then q", hence the following comment on Black's puzzle. Well, the spheres are too hypothetical, we have only "second intentions" of them and no direct epistemic contact (no "first intention") of either.[94] For this reason, we cannot consider ("take") one of them and independently check whether in fact everything that we have found out about the other (which would then, naturally, have to have been "taken" separately) is or is not true of *it*.[95] In default of a possibility like that, there is no way to "*unum in alterius locum substituere*" and Leibniz' Law, far from being disproved, fails to find application. Black's thought-experiment is poorly devised, because it ultimately boils down to the nonsensical question "what is the difference between two objects that aren't different at all?" But perhaps Black meant not so much the ontological (non-)question "what is the difference (between two objects that aren't different at all)?" but a slightly less nonsensical epistemological question "how can we tell apart two objects that seem to be different (but we don't know how they differ)?" Black seems to be reluctantly admitting that his spheres are in two different places, but he points out that the places are not identifiable independently of the spheres, so they are of little use for telling the spheres apart.[96] Yet, this is a different topic which I cannot go into here anymore.

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[92] [Black IoI], 156.

[93] And yet, the puzzle *is*, if only obliquely, relevant to the problem of a principle of individuation, as was brought to my awareness (in a conference discussion) by the late, unforgettable Prof. Arda Denkel, gentleman--philosopher from Boğaziçi Üniversitesi, Istanbul, Turkey. See e.g. his [Denkel, Obj. & Prop.].

[94] On the topic of first and second intentions see the forthcoming work of Emanuele Lacca of Cagliari University; cf. his M.A. thesis: "La conoscenza intenzionale nell'opera di Juan Sanchez Sedeño", accepted by the Philosophy Department of the University of Palermo in Nov. 2011.

[95] "A: Your supposition, I repeat, isn't verifiable and therefore can't be regarded as meaningful. But supposing you have described a possible world, I still don't see that you have refuted the principle. Consider one of the spheres, *a* …

B. How can I, since there is no way of telling them apart? Which one do you want me to consider?

A. This is very foolish. I mean either of the two spheres, leaving you to decide which one you wished to consider. If I were to say to you 'Take any book off the shelf' it would be foolish on your part to reply 'Which?'

B. It's a poor analogy. I know how to take a book off a shelf, but I don't know how to identify one of two spheres supposed to be alone in space and so symmetrically placed with respect to each other that neither has any quality or character the other does not also have" [Black IoI], 156.

[96] From "But look here. Each sphere occupies a different place; and this at least will distinguish them from one another," [Black IoI] 157 to "Now if two spheres must be in different places, as indeed they must, to say that the spheres occupy different places is to say no more than they are two spheres." (*Ibidem*, 158.) This is all about what it is to "say" (believe, know), rather than "be," something-or-other, which is epistemology,

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yet my solution (descriptions and all) moves about in the same realm (of what is to be said) which is why I call it "epistemological."

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A Solution of the Problem of a "Principle of Individuation"

Abstract

I consider hypothetical complete descriptions of individuals and ask about an 'epistemological' principle of individuation, that is, the factor which accounts for no such description's being applicable to any other individual. I put forward and examine three complementary ontological and meta-ontological hypotheses on every individual conceivable and propose that it is their compound truth (which, marginally, supports a 'thin' Aristotelian essentialism) that is that factor. I also give, as I go, some historical information on the research on the principle of individuation.

Keywords: principle of individuation, epistemology, ontology, meta-ontology, Aristotelian essentialism.