

REALISM AND ABSTRACTION IN ECONOMICS: ARISTOTLE AND MISES *VERSUS* FRIEDMAN

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Austrians have frequently criticized neoclassical economics for the unrealistic character of its assumptions. Neoclassical models are typically “idealized”; that is, they leave out such features of the real-world economy as rivalry, imperfect information, nonmonetary incentives, and the passage of time. In his enormously influential 1953 article “The Methodology of Positive Economics” (Friedman 1953, pp. 3-43)—a work which Friedrich Hayek once described as being “as dangerous” as Keynes’s *General Theory* (1994, p. 145)—Milton Friedman defended the use of unrealistic models against Austrian-style criticisms, on the grounds that any good explanatory theory must be *abstract*, and abstractions by their very nature are unrealistic. Friedman wrote:

A hypothesis is important if it “explains” much by little, that is, if it abstracts the common and crucial elements from the mass of complex and detailed circumstances surrounding the phenomena to be explained and permits valid predictions on the basis of them alone. To be important, therefore, a hypothesis must be descriptively false in its assumptions; it takes account of, and accounts for, none of the many other attendant circumstances, since its very success shows them to be irrelevant for the phenomena to be explained. . . . Truly important and significant hypotheses will be found to have “assumptions” that are wildly inaccurate descriptive representations of reality, and, in general, the more significant the theory, the more unrealistic the assumptions. (Friedman 1953, pp. 14-15)

One obvious Austrian response to Friedman’s argument is that the features typically omitted by neoclassical models are the very features that are

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crucial to understanding how the market functions, and so cannot be “irrelevant for the phenomena to be explained.” In Austrian theory, for example, the process by which correct entrepreneurial judgments are rewarded and incorrect ones penalized is central to explaining how markets serve consumer preferences; but no model that posits perfect information could take account of this process.

Such a reply would have little weight with Friedman, however, because he simply does not mean by “explain” what Austrians mean by it. As an empiricist, Friedman takes a theory to explain a phenomenon if it enables us to predict the phenomenon’s occurrence; whereas for Austrians, to explain economic phenomena is, in Ludwig Lachmann’s phrase, “to make the world around us intelligible in terms of human action and the pursuit of plans” (Lachmann 1977, pp. 261–62). As philosopher Peter Winch shows, these two conceptions of explanation are radically different:

The important question for us is: in what circumstances could one say that one had *understood* this sort of behaviour? . . . Weber often speaks as if the ultimate test were our ability to formulate statistical laws which would enable us to *predict* with fair accuracy what people would be likely to do in given circumstances. . . . [But] we might well be able to make predictions of great accuracy in this way and still not be able to claim any real understanding of what those people were doing. The difference is precisely analogous to that between being able to formulate statistical laws about the likely occurrences of words in a language and being able to understand what was being *said* by someone who spoke the language. . . . [A] man who understands Chinese is not a man who has a firm grasp of the statistical probabilities for the occurrence of the various words in the Chinese language. (Winch 1990, p. 115)

Moreover, the Friedmanite position would be on shaky ground even if predictive power were the central point of economics. Suppose it turns out that wildly false assumptions do have some predictive value; from a Misesian point of view, when we find an empirical regularity we still need a correct theory to determine whether this regularity can be expected to hold over a broad or a narrow range of circumstances. For example, let’s say that in early 2001 I formulate a theory to the effect that there is a Constant Tolkienian Force in the universe that produces a Tolkien film every year. When Austrians complain that my theory ignores the fact that films are products of human action and not of constant impersonal forces, I reply: “Oh, I know *that*. My theory isn’t supposed to be realistic. The question is whether it’s a good predictor.” So I test it in 2001, 2002, and 2003. Lo and behold, my theory works each year! (2001 brings *The Fellowship of the Ring*, 2002 brings *The Two Towers*, and 2003 brings *The Return of the King*.) But unless I pay some attention to the *true* explanation of this sequence of film releases, I’ll be caught by surprise when the regularity fails for 2004.

But while all this is true enough from an Austrian perspective, my present concern is not with the *general* merits of Austrian versus positivistic

approaches to economic methodology, a subject I have pursued in detail elsewhere.¹ Rather, I shall argue that before we can even consider the question of which features of the economy belong in our explanatory theories and on what grounds, we need to reject the entire conception of abstraction that Friedman is working with. Invoking a rival understanding of abstraction—the Aristotelean one—will allow us to rebut Friedman’s argument and to vindicate the Austrian position on unrealistic models.

Here’s a brief itinerary for the rest of the paper. First, I will show how abstraction is understood in the Aristotelean tradition. Second, I will use the Aristotelean understanding of abstraction to show how Friedman’s argument is confused. Third, I will show that this Aristotelean critique of Friedman is already implicit in the work of Ludwig von Mises. Fourth, I will show that there is a legitimate Austrian use for unrealistic models, but it is not the use Friedman envisions. Finally, I will show how the Austro-Aristotelean critique of Friedman sheds light on the dispute between Friedman and the Austrians over methodological apriorism.

ARISTOTLE AND ABSTRACTION

Aristotle’s theory of abstraction may be seen as a response to the following worry. It can easily seem that abstract concepts do not strictly apply to reality. The concept *horse*, for example, is supposed to apply to all horses, of whatever color. But obviously it could not do so if it had as its content a horse of any one definite color; if it were the concept of a brown horse, for example, it could not apply to a black one. In order to apply to all horses, then, the concept *horse* must have as its content a horse of no determinate color. But in that case the concept still does not apply *strictly* to any actual horse; for every actual horse has some determinate color. Either the concept *horse* somehow falsifies reality, then, or else—as Aristotle’s teacher Plato had argued—its actual referent is not any physical horse but the transcendent, immaterial Form of Horse, which indeed has no determinate color, and of which our familiar physical horses are merely an inadequate reflection. Hence abstractions have either mysterious otherworldly referents or no referents at all; in either case, they cannot refer to the familiar objects of ordinary experience.

Aristotle’s solution to this puzzle is to reconceive abstraction as a matter of attending to some aspects of a thing and ignoring others. To think the concept *horse*, for example, we focus on an ordinary horse—whether a real horse before us or an imagined horse before our mind’s eye—and then attend to the features it shares with other horses while ignoring its distinguishing features, such as its particular color.

In making [geometrical] diagrams . . . although we make no use of the fact that the triangle is determinate in quantity, we nonetheless draw it as

¹Long (forthcoming 2007); for a briefer presentation, see Long (2004).

determinate in quantity. Likewise also one who thinks, even if what he thinks is not quantitative, sets up before his eyes something quantitative but thinks of it not as quantitative; and if what he thinks is of a quantitative nature but indeterminate, he sets up something determinately quantitative but thinks of it merely as quantitative. (*On Memory* 450a1-7)²

Accordingly, Aristotle disagrees with Plato's view that physics and geometry study different sorts of objects, physical and nonphysical respectively. For Aristotle, geometry studies physical objects just as much as physics does, but it studies them in a nonphysical way; the two sciences deal with the same familiar spatially extended objects, but geometry attends to their shape and position while abstracting from their physical embodiment:

We must consider how the mathematician differs from the physicist; for physical bodies have surfaces and volumes, lengths and points, all of which fall within the mathematician's purview. . . . Now the mathematician too is concerned with such things, but not *qua* boundaries of physical bodies. . . . For they are separable *in thought* from motion, though from this separation no distinction or falsity arises. (*Physics* 193b22-36)

Just as there are many statements characterizing things *qua* movable only, apart from what each of them is and apart from their accidents, and it does not necessarily follow from this that there is something movable apart from perceptible things, nor yet that there is some distinct nature within them, so too there will be statements and sciences that apply to movable things not *qua* movable but *qua* corporeal only, and again *qua* planes only, and *qua* lines only, and *qua* divisible, and *qua* indivisible but having position, and *qua* indivisible only. . . . For a human being is indivisible, *qua* human being. Now the arithmetician treats him as one indivisible thing, and considers what belongs to him *qua* human, while the geometer considers him neither *qua* human nor *qua* indivisible, but rather *qua* solid; for it's clear that whatever would hold true of him even if he were somehow not indivisible can hold true of him irrespective of these characteristics. Accordingly, geometers are right in saying that the objects they discuss are real existents. (*Metaphysics* 1077b23-1078a29)

This Aristotelean conception of abstraction was revived by the medieval Scholastics. Pierre Abélard (1079-1142), for example, undertook to "explain why thoughts gained through abstraction are not erroneous . . . even though they conceive things other than they are." John Marenbon summarizes Abélard's solution:

When I regard a man only as substance or only as a body, he explains, I am not conceiving anything in his nature which is not there, but I am not attending to all which he has. My thought would be erroneous if I regarded his nature as being only substance or only body. There is nothing erroneous, however, in regarding him only as substance or body; the "only"

²All translations from Aristotle are mine.

must apply to the regarding, not to the way in which the man exists.
(Marenbon 1997, pp. 166-7)

Essentially the same position was held a century later by Thomas Aquinas (1224/5-1274), who wrote:

Abstraction may occur in two ways. First . . . we understand that one thing does not exist in some other, or that it is separate from it. Secondly . . . we understand one thing without considering another. Thus, for the intellect to abstract one from another things which are not really abstract from one another, does, in the first mode of abstraction, imply falsehood. But, in the second mode of abstraction, for the intellect to abstract things which are not really abstract from one another, does not involve falsehood. . . . If, therefore, the intellect is said to be false when it understands a thing otherwise than as it is, that is so, if the word otherwise refers to the thing understood. . . . Hence, the intellect would be false if it abstracted the species of a stone from its matter in such a way as to think that the species did not exist in matter, as Plato held. But it is not so, if *otherwise* be taken as referring to the one who understands. (*Summa Theologiæ* I. 85. 1 ad 1; Aquinas 1999, p. 157)

Aquinas is here distinguishing between two different ways in which we might consider, say, a horse in abstraction from its color. We may consider the horse *as not* having a determinate color, or else we may consider the horse *not as* having a determinate color. To consider the horse *as not* having a determinate color is to hold, or attempt to hold, as the object of our thought a horse that simply has no determinate color—a creature never encountered in physical reality, and having its home either in Platonic heaven or nowhere. This sort of abstraction falsifies and contradicts the concretes on which it is based. But to consider the horse *not as* having a determinate color is simply to consider the horse as a horse without considering its color one way or the other; and here no falsification is involved.

These two types of abstraction are often referred to as *precise* and *non-precise*. As Armand Maurer explains:

Precision is a mode of abstraction by which we cut off or exclude something from a notion. Abstraction is the consideration of something without either including or excluding from its notion characteristics joined to it in reality. Abstraction without precision does not exclude anything from what it abstracts, but includes the whole thing, though implicitly and indeterminately. (Note to Aquinas 1968, p. 39n)

In short, a precise abstraction is one in which certain actual characteristics *are specified as absent*, while a nonprecise abstraction is one in which certain actual characteristics are *absent from specification*.³ Plato failed to see

³For further discussion of this distinction see Long (2001, pp. 406-17, and 2002, pp. 404-15).

how abstract concepts could apply strictly to physical reality because he failed to see that abstraction could be nonprecise; one might say that he mistook *an indeterminate way of thinking about something* for *a way of thinking about something indeterminate*.

This is very much how the Austrian Aristotelean Franz Brentano (1838-1917) describes the contrast between Plato and Aristotle:

Plato thought that we recognize flesh and the being of flesh by apprehending two different things. . . . Aristotle teaches the exact opposite of this. . . . For it would obviously be a ridiculous assertion that someone who wanted to know something and instead apprehended something else with his intellect thereby reached the knowledge he desired. For example, a scientist wants to come to know the crystals and the plants and the other bodies that he finds here on earth; hence if he apprehended the concepts of tetrahedrons and octahedrons, and of trees and grasses belonging to another world, he would not reach his aim in any way. (Brentano 1977, pp. 86-88)

Brentano thus endorses the Aristotelean solution:

Whatever *is* is fully determinate. . . . But a thing that is completely determinate may yet be thought of without its complete determination. . . . It is an error, then, to affirm that there are universals in the strict sense. But it is *also* an error to deny that anything real can correspond to a universal idea . . . because a multiplicity of things *can* correspond to them. . . . When we think of the object *as* stone and when we think of it *as* this particular stone, we have the same object of thought in each case; but what we are thinking of it *as* differs in the two cases. (Brentano 1981, pp. 25-26, 39)

In recent years, this Aristotelean approach to abstraction has been revived by Ayn Rand. On the issue of universals Abélard was a nominalist and Aquinas a realist, while Rand attempted to transcend the nominalist/realist dichotomy altogether; all three thinkers, however, stand in the Aristotelean tradition, and all three appealed to nonprecise abstraction to explain how concepts apply to reality. Rand does not employ the Scholastic terminology, but her approach follows that of her Aristotelean predecessors. (It's not clear how far Rand was drawing specifically on the Aristotelean tradition, rather than being led by her generally Aristotelean approach to develop the same solution independently; the same question, for that matter, applies as well to Abélard, who had access to only a fraction of the Aristotelean corpus.)

In *Introduction to Objectivist Epistemology*, Rand writes:

If a child considers a match, a pencil and a stick, he observes that length is the attribute they have in common, but their specific lengths differ. . . . In order to form the concept "length," the child's mind retains the attribute and omits its particular measurements. Or, more precisely, if the process were identified in words, it would consist of the following: "Length must exist in *some* quantity, but may exist in *any* quantity. I shall identify as 'length' that attribute of any existent possessing it which can be quantitatively related to

a unit of length, without specifying the quantity. . . . Bear firmly in mind that the term “measurements omitted” does not mean, in this context, that measurements are regarded as non-existent; it means that *measurements exist, but are not specified*. (Rand 1990, pp. 11-12)

To regard the measurements as nonexistent would be to abstract precisely; to regard the measurements as existent without specifying them is, by contrast, to abstract nonprecisely. If all abstraction were precise, then “every advance of knowledge” would be “a setback, a demonstration of man’s ignorance.” Since “the savages knew that man possesses a head, a torso, two legs and two arms,” it follows that if absence of specification meant specification of absence, then “when the scientists of the Renaissance began to dissect corpses and discovered the nature of man’s internal organs,” we would have to say that their discoveries “invalidated the savages’ concept ‘man,’” and likewise that “when modern scientists discovered that man possesses internal glands, they invalidated the Renaissance concept ‘man’” (pp. 67-8). On a proper understanding of abstraction, however, so long as whatever one fails to include in one’s concepts is merely unspecified, rather than specified as absent, then “even if the scope of [one’s] knowledge is modest and the content of his concepts is primitive, *it will not contradict the content of the same concepts in the mind of the most advanced scientists*” (p. 43). Like Abélard, Aquinas, and Brentano before her, Rand thus employs the concept of non-precise abstraction to reply to the charge that abstraction falsifies reality:

The basic principle of concept-formation (which states that the omitted measurements must exist in *some* quantity, but may exist in *any* quantity) is the equivalent of the basic principle of algebra, which states that algebraic symbols must be given *some* numerical value, but may be given *any* value. . . . In the equation $2a = a + a$, any number may be substituted for the symbol “*a*” without affecting the truth of the equation. . . . Let those who attempt to invalidate concepts by declaring that they cannot find “manness” in men, try to invalidate algebra by declaring that they cannot find “*a*-ness” in 5 or in 5,000,000. (p. 18)

ARISTOTLE VERSUS FRIEDMAN

With the distinction between precise and nonprecise abstraction in hand, we can now turn to Friedman’s defense of unrealistic models and identify its flaws. Friedman, as we’ve seen, thinks that a worthwhile economic theory “must be descriptively false in its assumptions,” since it “takes account of, and accounts for, none of the many other attendant circumstances” but instead “abstracts the common and crucial elements from the mass of complex and detailed circumstances.” Friedman is of course quite right that an economic theory needs to leave aside a mass of complex details; but so long as it leaves them aside by failing to specify them, rather than by specifying their absence, it does *not* need to be descriptively false. A perfect-competition model, for

example, does not merely fail to specify the existence of entrepreneurial error; if it did, it would fail to explain much about the workings of the market, but *at least it would not say anything false*. Rather, a perfect-competition model, by positing that all economic actors possess complete (and completely similar) information, explicitly specifies the *absence* of entrepreneurial error—and it is to this *falsification* that Austrians object. George Reisman (1968) was exactly on target when he characterized the perfect-competition model as “Platonic Competition”; and Friedman is making precisely the Platonic mistake of treating all abstraction as a form of *idealization*.

Further evidence that Friedman has confused precise with nonprecise abstraction is apparent in the following passage:

A theory or its “assumptions” cannot possibly be thoroughly “realistic” in the immediate descriptive sense so often assigned to this term. A completely “realistic” theory of the wheat market would have to include not only the conditions directly underlying the supply and demand for wheat but also the kind of coins or credit instruments used to make exchanges; the personal characteristics of wheat-traders such as the color of each trader’s hair and eyes, his antecedents and education, the number of members of his family, their characteristics, antecedents, education, etc.; the kind of soil on which the wheat was grown, its physical and chemical characteristics, the weather prevailing during the growing season; the personal characteristics of the farmers growing the wheat and of the consumers who will ultimately use it; and so on indefinitely. . . . No critic of a theory would accept this logical extreme as his objective; he would say that the “assumptions” of the theory being criticized were “too” unrealistic and that his objective was a set of assumptions that were “more” realistic though still not completely and slavishly so. (Friedman 1953, p. 32)

Friedman’s mistake lies in taking a theory that incorporates ancestry, eye color, and so on to be the “logical extreme” of realism. But realism does not demand that all these extraneous traits be specified; it merely demands that their *nonexistence* not be specified either. Those who criticize neoclassical models for their lack of realism are not seeking a precise abstraction that *more closely* approximates reality; rather, they are seeking an abstraction that is not precise at all. The right question to ask is not “How closely should our theories approximate reality in order to yield useful predictions?” but rather “How much specificity should our theories incorporate in order to yield useful explanations?” It’s a mistake to talk, as even Austrians sometimes do,⁴ about *degrees of realism*. All nonprecise abstractions are equally realistic: “Cujo is a Saint Bernard” is no more *realistic* than “Cujo is a dog” (though it is more *precise*, just as a measurement of 2.00 is more precise than a measurement of 2.0—not more correct, but correct to more significant figures). As French sociologist Charles Comte (1782–1837)—a follower of subjective-value

⁴See, e.g., O’Driscoll and Rizzo (1996, p. 21); Garrison (2001, chap. 1); Caldwell (2004, p. 333).

economist Jean-Baptiste Say, and thus in some respects a proto-Austrian—points out:

One must not confuse an incomplete analysis with a false or unfaithful analysis. The former indicates only part of the characteristics of the object described; but everything that it does describe is correct, and it refrains from asserting that there exist no other characteristics than those which it has outlined. The latter describes things otherwise than they are, or presents, as complete, descriptions that are not so. (Comte 1826, vol. 1, pp. 79-80)⁵

Friedman tries to defend the use of unrealistic (i.e., false) assumptions in economics by pointing to the legitimate use of such assumptions in geometry and physics. With regard to geometry, for example, Friedman writes:

Euclidean geometry is an abstract model, logically complete and consistent. Its entities are precisely defined—a line is not a geometrical figure “much” longer than it is wide and deep; it is a figure whose width and depth are zero. It is also obviously “unrealistic.” There are no such things in “reality” as Euclidean points or lines or surfaces. (Friedman 1953, p. 25)

We’ve already seen how an Aristotelean is going to handle this example: the concept *line* can be applied to reality, not because reality contains objects with length but no width or depth, but because reality contains objects whose length can be considered in nonprecise abstraction from their width or depth. In the same way, the concept *point* can be applied to reality, not because reality contains objects with location but no magnitude (quantum physicists may well decide that it does, but the realism of geometry does not depend on their doing so), but because reality contains objects whose location can be considered in nonprecise abstraction from their magnitude; and so on. Thus, as Aristotle noted, “geometers are right in saying that the objects they discuss are real existents”—though wrong in taking them to be Platonic Forms rather than ordinary physical objects.

As for physics, Friedman follows the widespread practice of treating physical laws as applying to idealized conditions only. He writes, for example:

It is an accepted hypothesis that the acceleration of a body dropped in a vacuum is a constant— g , or approximately 32 feet per second per second on the earth. . . . [U]nder a wide range of circumstances, bodies that fall in the actual atmosphere behave *as if* they were falling in a vacuum. . . . The formula is accepted because it works, not because we live in an approximate vacuum—whatever that means. (pp. 16-18)

Now it is certainly true that falling bodies do not really move in a precisely straight line downward at a rate precisely equal to g , because the Earth’s

⁵Translation mine.

gravity is never the only force acting on a falling body. Hence if we were to interpret the law of gravity as asserting that bodies really do move in this way, then we would have to conclude that the law of gravity is not strictly correct, or that it applies only to an idealized world and not the real one. Yet the law of gravity is certainly useful in predicting the actual motions of actual bodies, and so the use of “unrealistic” assumptions would be vindicated, in physics at least.

Here once again Friedman has confused precise with nonprecise abstraction. As Guido Hülsmann has pointed out, economic laws as Austrians understand them are not relations between earlier and later events, but rather between actual and counterfactual events:

Austrian economics is based on the insight that human behavior and human thoughts are *only a part* of human action, namely, the part that is realized (that is “there”). Other parts of human action are not—or not yet—realized. These are, in particular, (a) the purposes in pursuit of which humans act and (b) the foregone alternatives that could have been chosen. Purposes and foregone alternatives are obviously not part of the world in the sense that they are realized. However, it cannot be denied that they have some sort of existence, and this undeniable fact puts Austrian economists in a position to explain the realized manifestation of human action (behavior and thoughts) as a corollary of the non-realized part. . . . By contrast, neoclassical economists seek to explain observable phenomena . . . in terms of other observable phenomena. (Hülsmann 1999, pp. 4-6)

There is no guarantee, for example, that a minimum wage law will cause unemployment in the sense of making unemployment higher than it was before the law; for the level of unemployment is influenced by many different factors, some countervailing. What economic law does guarantee is that the level of unemployment will be higher under a minimum wage law than it *would have been* without the law. (This is precisely the distinction, familiar to Austrians from the writings of Frédéric Bastiat and Henry Hazlitt, between “what is seen and what is not seen.”) Hence the theory that minimum wage laws cause unemployment is not a precise abstraction, applicable only to an idealized case in which minimum wage laws are the only factor influencing unemployment; rather it is a nonprecise abstraction, applicable to all situations involving minimum-wage laws, regardless of what other factors are operative. As Hülsmann notes:

Because a counterfactual law relates an observable fact to a counterfactual alternative, it is immaterial which other facts exist besides the one under consideration, how these other facts are modified throughout time, and how they influence the course of events. (Hülsmann 2003, p. 74)

What I wish to point out is that what Hülsmann says here about economic laws is equally applicable to physical laws: the law of gravity, too, is not a precise abstraction applicable only to motion in a vacuum, but rather a nonprecise abstraction that *omits* reference to other forces but does not thereby

regard them as nonexistent. The trajectory of a falling object is the resultant of all the forces acting on it; if during a given period an object would fall five feet if gravity were the only force acting on it, then whatever other forces may be acting on the object, we can still predict that the object will end up *five feet further down* than it would have if gravity had not been acting on it. (Though see the qualification in the footnote.)⁶

Thus the law of gravity describes the object's motion correctly, not only when the other forces are relatively negligible but also when they are quite strong—as strong as, or even much stronger than, the force of gravity. Hence I am inclined to disagree with Rothbard's suggestion that “false assumptions such as the absence of friction,” while inappropriate in economics, are “good sense [and] useful in physics”⁷ (Rothbard 1997, p. 102). Recent suggestions, by eminent philosophers of science, that “the laws of physics lie” (Cartwright 1983) are making the same mistake about physics that Friedman makes about economics.

FICTION AND FRICTION

We've seen that Friedman's defense of the use of unrealistic assumptions in economics founders on the Aristotelean distinction between precise and nonprecise abstraction. I shall now show how this Aristotelean way of rebutting Friedman is already implicit in Mises' critique of his own predecessors.

Mises often complains that the classical economists regarded economic laws as concerned solely with certain kinds of motives, and so capable of yielding true predictions only in cases where those motives alone are operative:

⁶Here one must make the qualification: unless its being pulled downward causes it to encounter a countervailing force it would not otherwise have encountered—e.g., colliding with an obstacle and so rebounding in the opposite direction. A similar qualification applies in the economic case: if “an increased supply of tomatoes (accidentally) causes an increase of demand for these tomatoes,” then “it is not necessarily the case that the tomato price is lower than it otherwise would be” (Hülsmann 2003, p. 74, p. 77, n. 24). Yet even if this means that *ceteris paribus* clauses cannot be eliminated entirely, their scope is certainly narrowed.

As for the case of gravity, the above qualification incidentally provides an answer to an objection raised by an anonymous referee: if an object (say, a book) is resting on a table, can we still say that the object ends up five feet further downward than it would have without the influence of gravity? Yes, in the following sense: the downward force that the book exerts on the table is exactly offset by the upward force that the table exerts on the book. If the book were to encounter that same upward force without the downward force, then after the relevant interval it would be five feet higher up than it is now. However, in this case the book would not have encountered the upward force were it not for the downward force; hence the above-mentioned qualification.

⁷For defense of the claim that false assumptions are unnecessary even in quantum physics, see Miller (1987, chap. 11).

When they distinguished between purely economic motives and other motives, the classical economists referred only to the acquisitive side of human behavior. . . . Modern economics rejects as entirely fallacious . . . the argument advanced for the epistemological justification of the Classical methods by their last followers, especially John Stuart Mill. According to this lame apology, pure economics deals only with the “economic” aspect of the operations of mankind, only with the phenomena of the production of wealth “as far as those phenomena are not modified by the pursuit of any other object.” (Mises 1985, p. 206)

Thus, Mises laments, “the idea arose that the laws of catallactics hold true only ideally, i.e., on the assumption that men act in a vacuum, as it were” (Mises 2002, p. 172).

Even Frédéric Bastiat, that most Austrian of pre-Austrians, wrote in his *Economic Harmonies* that although the “subject of political economy is man,” yet “it does not embrace the whole man”:

Religious sentiment, paternal and maternal affection, filial devotion, love, friendship, patriotism, charity, politeness—these belong to the moral realm, which embraces all the appealing regions of human sympathy, leaving for the sister science of political economy only the cold domain of self-interest. . . . What does it deal with? With transactions carried on between people who do not know each other, who owe each other nothing beyond simple justice, who are defending and seeking to advance their own self-interest. It deals with claims that are restricted and limited by other claims, where self-sacrifice and unselfish dedication have no place. . . . Thus, political economy regards man from one side only, and our first concern must be to study him from this point of view. (Bastiat 1964, pp. 25-26)

The classicals were not really such fools as to suppose that “self-interested” and “altruistic” motives can be cleanly separated into different compartments of life; but they did regard the hypothesis of pure self-interest as a *good enough* predictor of people’s behavior *in the business world*. In short, their position was rather like Friedman’s. They differed from Friedman, of course, in wanting their theories to be at least close approximations to reality, whereas for Friedman it is only a theory’s predictions, not the theory itself, that must be squared with reality;⁸ but for the classicals no less than for Friedman the principles of economics are *precise abstractions* and thus are *strictly* applicable to the real world.

Even the early Austrian economists were likewise to some extent in the grip of this way of thinking. Carl Menger, founder of the Austrian School, maintained that economic laws describe the behavior of idealized economic agents who “strive to protect their economic interest fully,” are aware of “the economic situation, as far as it is of influence on price formation,” are “not in

⁸Cf. Rothbard (1997, p. 101) “If one must choose between two brands of empiricism, it seems like folly to put one’s trust in procedures for testing only *conclusions* by fact. Far better to make sure that the assumptions are also correct.”

error about the economic goal to be pursued nor about the pertinent measures for reaching it,” and are not subject to any “external force impairing their economic freedom.” Since these conditions “hold only in rare cases,” it follows that “as a rule *real* prices deviate more or less from *economic* ones” (Menger 1996, pp. 41-42). Exact science, for Menger, “seeks to ascertain the *simplest elements* of everything real,” without considering “whether these in reality are present as *independent* phenomena,” or even “whether they can at all be presented independently in their full purity.” He describes a “person pursuing only economic aims” as analogous to “absolutely pure oxygen, pure alcohol, pure gold,” which “must not be tested by full empirical reality” but “exist in part only in our ideas” (p. 29). “No more than pure mechanics denies the existence of air-filled spaces, of friction, etc.,” Menger tells us, “does the economist assert that humans are *actually* guided only by self-interest or else are infallible and omniscient” (pp. 60-61). I would be the last to deny the enormous methodological gulf that separates Menger from Friedman; nevertheless, the similarity between these last remarks of Menger’s and the Friedmanite position is striking.

Mises utterly rejects Menger’s approach on this issue:

The task of economics, as many epigones of the classical economists practised it, was to deal not with events as they really happened, but only with forces that contributed in some not clearly defined manner to the emergence of what really happened. Economics did not actually aim at explaining the formation of market prices, but at the description of something that together with other factors played a certain, not clearly described role in the process. (Mises 1978a, p. 75)

On Mises’s view, by contrast, economics “deals with the real actions of real men. Its theorems refer neither to ideal nor to perfect men, neither to the phantom of a fabulous economic man (*homo oeconomicus*) nor to the statistical notion of an average man (*homme moyen*)” (Mises 1966, p. 651). As for Menger, Mises suggests that he was “too much under the sway of John Stuart Mill’s empiricism to carry his own point of view to its full logical consequences” (Mises 1984, pp. 27-28).

Another Austrian founding father, Eugen von Böhm-Bawerk, likewise comes in for criticism along the same lines. Describing his teacher’s reaction to Mises’s defense of the importance of Cantillon effects, Mises writes:

[Böhm-Bawerk] raised no objections against the cogency of my step-by-step analysis; he did not deny its results—namely, that changes in purchasing power of money cause prices of different commodities and services to change neither simultaneously nor evenly, and that it is incorrect to maintain that changes in the quantity of money bring about simultaneous and proportional changes in the “level” of prices. But he maintained that this was a “friction phenomenon.” According to him, the old doctrine was correct “in principle” and maintains its full significance for an analysis aimed at “purely economic action.” In real life there is resistance and friction which cause the result to deviate from that arrived at theoretically. I tried

in vain to convince Böhm-Bawerk of the inadmissibility of metaphors borrowed from mechanics. (Mises 1978a, p. 59)

In Mises's opinion, the "distinction between economic and noneconomic action" had been rendered obsolete by the subjective theory of value, but "Menger and Böhm-Bawerk failed to draw all the conclusions that had to be drawn from their basic position" (Ibid., p. 122). It is not with the Austrian School *per se* but only with Mises himself that the classical way of regarding the matter is finally left behind.

Mises's clearest statement on these matters comes in his critique of Max Weber's theory of Ideal Types:

The basis of Weber's misconceptions can be exposed only by consideration of the question whether the concepts of economic theory do in fact have the logical character of the "ideal type." This question is plainly to be answered in the negative. . . . [Sociological concepts are not derived] "through one-sided *intensification* of *one* or *several* aspects and through integration into an immanently consistent *conceptual representation* of a multiplicity of scattered and discrete individual phenomena, present here in greater number, there in less, and occasionally not at all, which are in congruity with these one-sidedly intensified aspects." . . . They are rather a generalization of the features to be found in the same way in every single instance to which they refer. The causal propositions of sociology are not expressions of what happens as a rule, but by no means must always happen. They express that which necessarily must always happen as far as the conditions they assume are given. (Mises 2002, pp. 84 and 98)

An ideal type—a concept derived through "one-sided intensification"—would obviously be a *precise* abstraction, an unrealistic, streamlined, stylized version of reality. To this notion Mises opposes his own *nonprecise* abstractions, whose features are "found in the same way in every single instance to which they refer."⁹ Mises's reply to the Classical and early Austrians thus has a precise analogue in the Aristotelean tradition's reply to those who denied the strict applicability of abstractions to empirical reality. Though it might have surprised him to think so, Mises may be seen as returning the subjectivist tradition in economics to its Scholastic roots. (Given the enormous influence on the Austrian School of Franz Brentano,¹⁰ who as we've seen championed the Aristotelean and Thomistic position on just this issue, the reemergence of the same theme in Mises's thought is perhaps not so unexpected.)

⁹In defense of Weber, Mises's student Alfred Schütz (1967) replies that since praxeological categories are themselves ideal types, Mises's objection amounts to no more than a warning "against the intrusion of ideal types of too great concreteness and too little anonymity into economics" (p. 246). But Mises's objection is not *just* that ideal types are insufficiently abstract (though he does make this objection; Mises 1990, pp. 12-14) but that they are abstract *in the wrong way*.

¹⁰Cf. Smith (1994) and Gordon (1996).

THE USES OF IDEALIZATION

We've seen that Friedman is wrong in thinking that economic theories must be unrealistic in order to be abstract. Yet Austrians themselves make use of unrealistic models, such as Robinson Crusoe on his desert island, or Mises's "evenly rotating economy." In employing such precise abstractions, are Austrians guilty of the same mistake as Friedman?

By no means; for the role such models play in Austrian theorizing is crucially different from the role Friedman recommends. For Austrians, *the purpose of precise abstractions is to help us better grasp nonprecise abstractions*. As Rothbard writes, "false assumptions are useful in economic theory, but only when they are used as *auxiliary constructs*, not as premises from which empirical theories can be deduced" (Rothbard 1997, p. 102). By imagining an example in which *only* certain factors are operative, we can more easily focus, without distraction, on the operation of those factors—but the goal is to understand how those factors work *wherever* they are active.

Bastiat's discussion of Crusoe economics is helpful here. Crusoe economics is supposed to represent man in complete separation from society; yet, as Bastiat observes, any such separation must be entirely fictitious. Bastiat tells us that although "Daniel Defoe's original plan" was "to cast Robinson Crusoe ashore on the Isle of Despair alone, naked, deprived of all that can be added to one man's strength by united effort, specialized skills, exchange, and society," yet "Defoe would have deprived his novel of every trace of verisimilitude if, overfaithful to the thought he wished to develop, he had not made necessary social concessions by allowing his hero to save from the shipwreck a few indispensable objects, such as provisions, gunpowder, a rifle, an ax, a knife, rope, boards, iron, etc." Moreover, Crusoe "took with him into solitude another *social* treasure worth a thousand times more, one that the waves could not swallow up: I mean his ideas, his memories, his experience, and especially his language, without which he could not have communicated with himself or formed his thoughts." For Bastiat this is "decisive evidence that society is man's necessary milieu, since even a novelist cannot make him live outside it" (Bastiat 1964, p. 64). In short, Crusoe economics is a precise abstraction, representing human action otherwise than as it is.

Yet Bastiat does not condemn the use of Robinson Crusoe in economic theory; on the contrary, he makes use of Crusoe economics himself:

If man did not exchange, every part of the economic process would take place in the individual, and it would be very easy for us to set down from observation its good and bad effects. . . . The interrelations of these four elements—want, obstacle, effort, satisfaction—are perfectly evident and understandable in the case of man in a state of isolation. Never, never in the world, would it occur to us to say:

"It is too bad that Robinson Crusoe does not encounter more obstacles; for, in that case, he would have more outlets for his efforts; he would be richer.

“It is too bad that the sea has cast up on the shore of the Isle of Despair useful articles, boards, provisions, arms, books; for it deprives Robinson Crusoe of an outlet for his efforts; he is poorer.”

Never, I say, would people advance such absurd propositions as oracles of truth. It would be too completely evident that wealth does not consist in the amount of effort required for each satisfaction obtained, but that the exact opposite is true. . . . Yet it is certainly a fact that the . . . propositions that appeared so absurd when we applied them to the Isle of Despair seem so incontestably true when applied to France that they serve as the basis of all our economic legislation. (Bastiat 1964, pp. 95-96)

Though Bastiat does not use this terminology, his point is clearly that through streamlining and simplification, the *precisive* abstraction involved in Crusoe economics makes it easier for us to grasp the *nonprecisive* abstraction involved in the economic law that “wealth does not consist in the amount of effort required for each satisfaction obtained.”

Similar remarks apply to Mises’s “evenly rotating economy,” a construct that bears a superficial resemblance to the perfect-competition construct that Austrians excoriate. Both constructs abstract *precisively* from such real-world features as imperfect information and novelty. The difference is that *the evenly rotating economy is not supposed to be a model—realistic or otherwise—of the real world*. What happens in the ERE is not supposed to be a good predictor of what happens in real-world economies; quite the contrary. Rather, its point is to help us understand, for example, the difference between *profit* and *interest*, by showing us how, in a world without changes in price, profit would disappear but interest would not. The point of considering the ERE’s profitless world is thus not to prepare us to analyze situations in which profit is negligible, but precisely to enable us to analyze situations in which profit is *not* negligible, so that we may distinguish conceptually between the role of interest and the role of profit when both factors are operative and their effects intermingled.

Friedrich von Wieser, one of the Austrian School’s founding fathers, makes precisely this point in explaining his use of an imaginary communistic economy as an example:

The form of the fiction cannot have misled any one. I might, of course, have stated drily that I intended to abstain from the consideration of certain facts. But like one who wishes to look at certain things undisturbed by the impressions of other things, and aids his senses by spreading a veil over the disturbing objects, I thought to aid imagination by making use of the easily comprehended figure of a communistic society, concerned to abolish in actuality all that I wished to disregard in thought. The fiction which I have employed must be regarded in that light alone. (Wieser 1893, p. 243)

And as Wittgenstein likewise writes, in a somewhat different context:

If we want to study the problems of truth and falsehood, of the agreement and disagreement of propositions with reality, of the nature of assertion, assumption, and question, we shall with great advantage look at primitive forms of language in which these forms of thinking appear without the confusing background of highly complicated processes of thought. When we look at such simple forms of language the mental mist which seems to enshroud our ordinary use of language disappears. We see activities, reactions, which are clear-cut and transparent. . . . We see that we can build up the complicated forms from the primitive ones by gradually adding new forms. (Wittgenstein 1980, p. 17)

“In life everything is constantly in flux,” says Mises, “but for thought we must construct an imaginary state of rest. In this manner we conceptually isolate the individual factors in order to be able to study the effects of changes in them” (Mises 2002, p. 117). Or, in Rothbard’s words: “Only by analyzing a fictive changeless state can we arrive at a proper analysis of the changing real economic world” (Rothbard 1997, p. 102).

THE SNARES OF PSYCHOLOGISM

I’ve been arguing in defense of the Austrian approach to realism in economic theory, and against Friedman’s approach. But this is of course only one of the two major methodological disputes between Friedman and the Austrians; the other concerns empiricism versus apriorism. Without exploring the latter issue in detail, I wish to offer a hypothesis as to how Friedman’s misunderstanding of abstraction and his resistance to Mises’s methodological apriorism are related. I don’t think one is the cause of the other, but I do think the two have a common cause: a failure to distinguish between the *logical* and the *psychological*.¹¹

Consider first Friedman’s critique of Mises’s praxeological apriorism, which he condemns as “an utterly nonsensical view”:

That methodological approach, I think, has very negative influences. . . . [It] tends to make people intolerant. If you and I are both praxeologists, and we disagree about whether some proposition or statement is correct, how do we resolve that disagreement? We can yell, we can argue, we can try to find a logical flaw in one another’s thing, but in the end we have no way to resolve it except by fighting, by saying you’re wrong and I’m right. (Quoted in Ebenstein 2001, p. 273)

Friedman obviously thinks that in *a priori* reasoning, as opposed to empirical science, there is no objective way of resolving disagreements. But why does he believe this? Why is he so confident that trying to “to find a logical flaw in

¹¹For the classic texts explicating this distinction, see Frege (1977).

one another's thing," as Friedman puts it, is unlikely to resolve the matter? I can only conjecture that Friedman thinks of *a priori* reasoning as a *subjective* process of consulting the inner contents of one's own mind, heeding the deliverances of some essentially private inner voice that no second person can check on. The empirical method, by contrast, appeals to *publicly* available evidence and so allows for objectivity. But to think about *a priori* reasoning in this way is precisely to confuse the psychological with the logical.¹²

Let's take a less controversial case of an *a priori* discipline: mathematics. If two mathematicians disagree about the results of a calculation, they don't come to blows; nor do they consult a private source of revelation. Instead they "try to find a logical flaw in one another's thing," and presumably one of them will succeed—because *logical relations are at least as "public" as empirical ones*. Methodological apriorism makes no appeal to anybody's private psychological states; as David Gordon points out:

When a proposition is claimed to be self-evident, this does not mean that one is appealing to a psychological experience of certainty in support of the proposition. To do so would precisely be not to claim that the proposition was self-evident, since its evidence here depends on something else—the psychological experience. (Gordon 1996, p. 29)

In advocating methodological apriorism, Mises was not advocating reliance on private psychological experiences. After all, it was Mises who wrote: "There is no rational means available for either endorsing or rejecting a doctrine suggested by an inner voice" (Mises 1985, p. 165). Instead he was advocating reliance on the *publicly accessible* standards of logical reasoning. For Mises it is apriorism that resolves the intractable debates among empiricists, and not vice versa, since one cannot choose among competing interpretations of data without appealing to abstract theory: "Disagreements concerning the probative power of experience can be resolved only by reverting to the doctrines of the universally valid theory, which is independent of all experience" (Mises 2002, p. 30). Friedman is of course free to dispute the *content* of Mises's aprioristic arguments; but the very fact that he can do so shows that Friedman's criticism of their *form* is misguided. In treating praxeology as a *subjective*, publicly untestable method, Friedman commits the fallacy of *psychologism*: conflating logical relations with psychological ones. (This charge of psychologism is incidentally no particular slight to Friedman's acumen. Psychologism is one of the most persistent and seductive errors in philosophy; brilliant minds have erected entire systems on its treacherous foundations.)

¹²It might be objected that the sort of apriorism Friedman is criticizing concerns the *synthetic a priori*, while logic deals rather with the *analytic a priori*. But for an Austrian-oriented critique of the distinction between analytic and synthetic forms of apriorism see Long (2004, pp. 361-67).

The psychologism that explains Friedman's misunderstanding of apriorism arguably also explains his misunderstanding of abstraction. Friedman's failure to see the possibility of nonprecise abstraction suggests that he has confused the *act* of thinking with its *content*. When act and content are confused, it becomes natural to assume that if something is absent from the act of thinking it must also be absent from the content of thinking—in which case all abstraction would naturally be seen as precise. But to confuse the act of thinking with its content is precisely to confuse an inner *psychological* item with a *logical* one.¹³

Let me close with a final observation. Whatever else they may disagree on, Friedman and Mises agree that an *a priori* ethics is impossible. Those who defend the possibility of a rationally justifiable ethics, Mises contends, are essentially claiming that moral knowledge is “imparted to man by an inner voice, i.e., by intuition,” and fail to recognize that “with regard to the interpretation of the inner voice . . . no method of peacefully settling . . . disagreements can be found” (Mises 1985, p. 53). The parallel between Mises's criticism of *a priori* ethics and Friedman's criticism of Mises's own *a priori* economics is striking—and should lead us to suspect that Mises has here fallen into Friedman's own confusion between the private character of an “inner voice” and the public character of logic.

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¹³Cf. Frege (1972, pp. 324-25).

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