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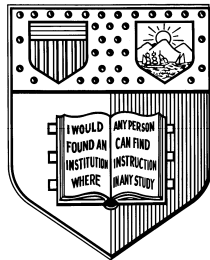
The Impossibility of a Prescriptive Paretian

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THE IMPOSSIBILITY OF A PRESCRIPTIVE PARETIAN

BY ROBERT HOCKETT[*]

Many normatively oriented economists, legal academics and other policy analysts appear to be "welfarist" and Paretian to at least moderate degree: They deem positive responsiveness to individual preferences, and satisfaction of one or more of the familiar Pareto criteria, to be reasonably undemanding and desirable attributes of any social welfare function (SWF) employed to guide policy choice. Some theorists and analysts go further than moderate welfarism or Paretianism, however: They argue that the "Pareto Principle" requires the SWF be responsive to individual preferences alone – a position I label "strict" welfarism – and conclude that all social choice should in consequence be formulated along strictly welfarist lines. I show that no strictly welfarist social welfare function can be employed to prescribe social choice (as distinguished from merely describing de facto social allocation), and that SWFs used to formulate social prescriptions must accordingly be constructed without regard to Weak, Strong or Indifferentist Pareto.

Keywords: Pareto, Paretianism, preference, welfare, welfarism, social welfare function, social choice, impossibility result.

1. INTRODUCTION

RECENT YEARS HAVE WITNESSED some spirited debate stimulated by a cluster of impossibility results derived in the Bergson-Samuelson-Arrow social choice framework. In particular, arguments proffered by Kaplow & Shavell (1999, 2001, 2002) concerning a tension between individual preference-honoring values that they and some others label "Welfarism" and "the Pareto Principle" on the one hand,[1] and other, more preference-

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The title here of course echoes Sen's (1970). I'll say a bit about what I take for the link between Sen's work and this one below, in section 4.5.

[1] "Welfarism" as currently employed is ambiguous along at least two axes. On the one hand is the question of what counts as welfare. Since the "welfarism" that is of concern in this paper is the now quite common form which interprets "welfare" simply as preference-satisfaction, I shall in the interest of clarity use the term "preference-regard" instead of "welfarism."

"Welfarism" also is potentially ambiguous as between the admonition that individual welfare should "count" in the determination of social welfare – a position that Samuelson (1947, page 223) dubbed "individualism" – and the admonition that *only* individual welfare ought thus to count – the position that Sen (1977) first dubbed "welfarism." I shall avoid this ambiguity by employing the word "strict" to indicate the exclusivist position. The absence of the word "strict" then will indicate that the inclusivist position is that which is countenanced.

Combining terms, most who label themselves "welfarists" today are what I shall call advocates of "strict preference-regard" in the construction of social welfare functions, permitting social welfare to ride solely upon individual preference-satisfactions.

"Pareto Principle" also is ambiguous along two dimensions. On the one hand, it is ambiguous as between (a) an observed empirical regularity in respect of wealth distribution across industrial societies (also known as "the 80/20 rule") first observed by Pareto during his second career as a sociologist and familiar to sociology ever since; and (b) one or another of the three Pareto criteria familiar to welfare economists and social choice theorists. On the other hand, the term also is sometimes ambiguous as

adjudicative ("Fairness") values which other analysts find compelling on the other hand, have generated a fair bit of heat. (See, e.g., Chang (2000a, 2000b); Fleurbaey, Tungodden & Chang (2003); Kaplow & Shavell (2000, 2004).)

I think that the Kaplow-Shavell results, as well as some cognate results derived concurrently by others (e.g., Suzumara (2001), Fleurbaey, Tungodden & Chang (2003)), in fact bear a significance that is more fundamental and far-reaching than suggested by the interpretations that have been offered to date. This significance emerges clearly only when we step back to reflect with some care upon what it is, precisely, normatively to assess, judge or *prescribe* social policy;[2] and, in connection with that, what it is to give complete expression to judgments or policy prescriptions in the language of social welfare functions (SWFs).

What the recently derived impossibility results actually derive *from* and thus bring to the foreground, I believe, are the following two heretofore backgrounded truths: First, that we cannot in fact normatively adjudge or *prescribe* policies, as distinguished from positively describing possible allocations, when such policies are formulated in conformity with strictly welfarist SWFs. And for this reason second, that we also cannot normatively adjudge or prescribe policies, as distinguished from merely describing possible allocations, when such policies are formulated in strict conformity with any of the three familiar Pareto criteria.

Something qualitatively distinct from bare preference is required to move from a positive demand to a normative command, just as to move from an "is" to an "ought."[3] And that "something more" always is capable, in principle, of coming into conflict with Pareto.

Below I derive two elementary results corresponding to the two "truths" I have just indicated – the inconsistency of strict welfarism and Paretianism with prescriptive judgment itself. Then I shall say a bit more about the proofs' structures and significance, linking these up to a provisional diagnosis of how we have managed, thus far, to miss what emerges here.

By way of orienting attention in what follows, I'll note here in passing the following: A critical piece of the diagnosis I'll offer, which also prompts a minimal but

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between the three familiar Pareto criteria – Weak (WP), Strong (SP), and Indifferentist Pareto (PI) – themselves. Because the use of "Pareto Principle" in the sociological sense antedates its use in the welfare economic sense, I shall employ the name "Paretianism" in the present, welfare economic context when speaking of the Pareto criteria ensemble. When speaking of particular members of the ensemble, I shall employ the particular names – "the WP criterion," "the SP criterion," or "the PI criterion." (A "fourth" designation – so-called "Full Pareto," or "FP," will go essentially ignored here, as it is but the conjunction of PI and SP.)

[2] Generally, I shall employ the term "judge" to refer to one's deciding that something – an action, a policy, a possible world, etc. – is good or bad, is better or worse, ought to be sought or avoided, etc. I'll use "prescribe" to refer to one's communicating such a judgment. ("Judgment" might accordingly be taken, roughly speaking, to refer to one's "prescribing to herself" – i.e., determining for herself what to opine.)

[3] I don't mean in saying this to be taking a position in respect of debates over so-called "ethical realism" or "cognitivism" in metaethics. (See, e.g., Brink's (1989) resourcefully argued realist defense of a version of utilitarianism.) I am happy enough for present purposes to concede the possible metaphysical propriety of speaking of "ethical truths" or "ethical facts," in which case the "is" / "ought" distinction to which I refer can be read simply as the distinction between non-normative and normative truths or facts.

By "bare" preference here, incidentally, I intend what I shall more precisely define below as "first-order" preference – preference concerning not preferences themselves, but goods, services, and the like.

far-reaching refinement that I introduce to the standard Bergson-Samuelson social choice apparatus, is my suspicion that we have lost sight of *ourselves*, so to speak, in the conduct of our normative policy assessments and social choice analyses. That is to say, we have failed to take note, and thus to appreciate the significance, of one cardinal feature of the critical *role* we take on, and in particular a judgment to which we commit ourselves, when we undertake to adjudge or prescribe or engage in any form of normative investigation or practice what ever that isn't the mere registering or stating of facts: I refer to the essential *self-referentiality* of normative inquiry, not to mention of intentional action itself, which of course figures centrally in normative inquiry.[4]

Self-referentiality, in the form of recursion, is quite familiar to many formal disciplines, including higher-order logics and metamathematics, transfinite set and recursive function theory, dynamic process theory and in consequence some subfields of macroeconomic dynamics as well. (See, e.g., Ljungquvist & Sargent (2004), Stokey, Lucas & Prescott (1989).) But it does not yet appear to have found its way into the core of welfare economic or social choice theory. (Some exceptions at what remains the periphery are Bergstrom (1999), Hockett (2007a, b), and Koray (2000).) And I fear that this absence is now proving to have been to our detriment, as emerges below.

In the next section, the self-referentiality of normative judgment and prescription finds expression in a concept that I'll introduce early on. This is what I shall be calling "incumbency," or "decisiveness." It is a property of those principles, value commitments or other normative considerations that prompt a prescriber's prescribing at all, as well as that both prompt and find expression in her particular prescriptions, be the latter formulated in an SWF or otherwise. It is accordingly a property that the prescriber is

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[4] Intentional action "figures centrally" in normative investigation in the following sense: One *engages* in normative investigation precisely in order to *guide* action or judgment – the latter itself a form of ("internal," or "mental") action. One does not generally conduct normative inquiries, for example, into matters about which she sees no reason to engage in the process of reaching normative judgments about – whether to tie the left or the right shoe first, for example. Nor does one generally prescribe to those who she knows cannot act upon her prescriptions. So that is how action figures into normative investigation.

As for "intentional" action: Action is generally understood to be essentially (indeed definitionally) intentional in nature: One acts pursuant to intentions; whereas when one's movements are not intended, we call them "involuntary," "spasmodic," "reflexive" and so forth. They are more properly viewed as "events" than as "actions."

Intentions to act are self-referential in this sense: To intend to act is to intend that the action occur pursuant to the intention itself, rather than that one's body simply happen to go through motions – remotely controlled, say – that resemble those that it would have gone through had one acted. (See, e.g., Anscombe (1963), Harman (1976), Velleman (1989) on this point.)

It bears noting that to prescribe action is often to prescribe that the prescribed action take place pursuant to the prescription itself. (Prescription thus might even be likened to "intending for," or "proposing intentions to," those to whom one prescribes.) In such cases the prescription would be self-referential in a manner not only analogous, but indeed identical, to the way that an intention is self-referential. That form of self-referentiality in a prescription would correspond to a strong form of prescriptive "incumbency," which I note many "analysts" to be committed to by their prescriptive behavior below in section 2.2. I shall not employ any such strong form of incumbency here, however. But again, more on this in section 2.

Note also, by way of one final observation in this vein, that those who sincerely prescribe will presumably take themselves to be subject to the same principles as those to which they hold others in prescribing. In effect, then, if they are not hypocrites they are self-referrers. But enough with self-reference for now.

logically committed to valuing, when found in the world, by dint of her very engagement in normative investigation in that world.

Incumbency is implicated, I believe, the moment we elide from description to prescription, hence from positive preferences to normative principles. Its absence from the literature in turn accounts for what I think to be a systematic conflating of description and prescription found in much of the same,[5] a conflation upon which the mistaken apprehension that strict "welfarism" and Paretianism can be wedded with normative judgment and prescription rests in turn.

2. THE MODEL

2.1 *Some Methodological Preliminaries*

In keeping with what was said at the close of the last section, a brief preview of one novel feature of the formal apparatus employed below might be helpful to what follows: The proofs ride crucially upon an analytic distinction that I seek to give *systematic* expression in the model, a distinction to which I believe we have not been sufficiently attentive. The distinction both (a) implicates self-referentiality, and (b) accordingly secures purchase in the form of a reflective concept that I introduce early on to the model. This concept corresponds to what I take for, and argue to be, a core property of normative inquiry itself.[6]

Roughly speaking, the aforementioned "distinction" is that between positive preferences and normative principles. This distinction both is rooted in, and closely tracks, that between description and prescription, or "is" and "ought." Though I myself hesitate to do so, one could for present purposes also call this a distinction between first-order and second-order preferences, or preferences and "metapreferences."[7]

In general, first-order preferences are directed toward – are preferences "for" – goods, services, resources and the like.[8] They correspond to the "inputs" and "consumer preferences" familiar to micro- and price theory, which one suspects lie at the backs of most minds as paradigmatic cases of "preference" as that term ordinarily is employed.

Principles, or second-order preferences, are directed toward – are norms or preferences "about" – preferences themselves.[9] They concern what preferences one

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[5] This is of course a venerable complaint that has afflicted welfare economic inquiry from its earliest days, especially since the early years of the so-called "new" welfare economics: its own apparent puzzlement as to its positive or normative status. See, e.g., Robbins (1932), Myint (1948), Little (1950). I hope here to be offering means of settling this question. A bit more on this below in section 5.

[6] Throughout this paper I'll mean by "normative inquiry" and "normative investigation" inquiry or investigation concerning what "should" or "ought" to be done or judged "good." Normative "judgment" in turn will refer to assertable results of such inquiry, and normative "prescription" will refer to actual assertions of those results, which generally are made with a view to influencing action.

[7] I say that I "hesitate" to use such language, for one thing, because I fret that the fundamentality of the distinction between preference and principle is apt to be obscured by use of the same word – "preference" – as component of both terms – "first-order preference" and "second-order preference." Nevertheless, because the word "preference" is both so familiar and so favored in the discipline, I'll sometimes employ "second-order preference" as rough synonym for "principle" here.

[8] Roughly speaking, they are preferences concerning things, rather than persons.

[9] Roughly speaking, they concern persons (as agents who prefer), rather than things.

believes ought to be cultivated, formed and/or acted upon, as well as what preferences held by oneself and by others should be entitled to satisfaction, given that (a) our own temporally extended plans, and (b) the presence of multiple persons in a world of scarce normal goods, each entail that not *all* preferences typically can be satisfied in full, hence that choices or "trade-offs" must be made as between inconsistent would-be preference-satisfactions.[10]

An unsurprising corollary of the characterization just offered of principles is that they are themselves what we consult or consider in querying whose preferences ought to be "counted" by any SWF giving precise formal expression to our socio-normative commitments. Such principles also, of course, are what we consult or consider in querying how to *aggregate* counted preferences, particularly when some increments of preference-satisfaction can only be purchased at the price forgone such increments. Such principles, indeed, are principles of distributive justice; they speak to how scarce determinants of preference-satisfaction ought to be allocated.

A final point to make before proceeding to lay out the formal apparatus is this: It would seem that one who presumes to judge or prescribe must, in virtue of the very act, afford a particular status to her own principles or second-order preferences. For one thing, in prescribing or judging or even normatively inquiring at all she is *giving effect* to her principles or second-order preferences, and she must deem the world better for her doing so. *That* "preference" is "revealed" in her very act. (She commits herself, in doing it, to the judgment that it is good to do.)

It is essentially this "giving effect" that I shall be calling "incumbency" below. And we'll see that it rules out strict welfarism and Pareto indifference in the case of any preference-regarding SWF that the prescriber might employ in fully formulating her prescription, if she herself does her analyzing in the world whose possible states her SWF rank-orders or assigns values to.

For another (though related) thing, any prescriber judges or says, in her judging or prescribing, what *ought* to be the case or be done in the world. (That is what it *is* to "judge" or "prescribe.") Hence she also judges or says, by straightforward implication, that any principles or preferences that others (or even she herself) might hold which are inconsistent with those principles or second-order preferences prompting her own prescriptions are *not* to be satisfied. (That is what "ought" or "should" mean.) *Her* principles trump any *competing* such principles or preferences; her principles, not contrary ones, are accordingly what we can call not only incumbent, but, equivalently "decisive."

But this means, of course, again that the prescriber's preference-regarding SWF will *not* respond positively to *all* possible preferences held by the world's inhabitants, *and* therefore that it always will be capable, in principle, of clashing with strong or even weak Paretian requirements. For rather than honoring the Paretian "veto," it will *itself* veto any such preferences as might be inconsistent with the principles that have determined its own construction.

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[10] The recognition that individuals' extended plans give rise to individuals' need to impose order upon their own preferences is particularly strong in the work of Bratman (2003, 2006). The use of the "first-order" / "second-order" distinction in such connections appears to originate in Frankfurt (1971), who speaks of thus-ordered "desires."

On now to the model and proofs. I'll say a bit more in their defense, as well as about their significance, afterwards.

2.2 *The Familiar Core of the Model*

The proofs make use of the familiar apparatus of social welfare functions, which I briefly rehearse in this subsection.[11] I'll introduce a few minimal refinements to the standard apparatus, meant to give clearer expression to the distinction between normative principle and judgment on the one hand, positive preference on the other, in the next subsection.

Let x (or x', x'', etc.) designate a possible state of the world as viewed under a normatively complete description.[12] A normatively complete description includes all details that might be found salient pursuant to some method of evaluative judgment, i.e., judgment concerning a state of the world's being "better" or "worse" than another such state. These details can of course include facts about any number of individuals i belonging to a defined population N of n members. It will sometimes be convenient to call x (or x', x'', etc.) simply "a world," or "possible world."

We shall assume also that there exists a subclass Na of those persons i among the population N, whom we'll call *analysts* (elliptical for "policy analysts").[13] Analysts are all persons who engage in normative investigation with a view to determining what social policy "should" be.

Use of the word "should" here of course suggests that analysts will typically be bringing normative *principles* to bear in their analyses, principles that they take for ethically or morally – in a word, "normatively" – compelling. In many if not indeed most cases, moreover, it is likely that commitment to such principles, or at the very least to determining the right such principles, is what has prompted the analysts' having decided to engage in normative policy assessment in the first place.[14]

It also bears noting, if only in passing, that the class of analysts Na might constitute the full population N (such that $Na = N$), or might instead constitute a proper subclass of N, indeed even a singleton such subclass. A parent might be the sole "analyst" in a single parent family, for example, at least for a while. A "policy elite," in turn, might constitute the full class of analysts in some polities, while the full citizenry might do so in some ideal republic or participatory democracy. The identity of the analyst(s), and the method of evaluative assessment employed by (i.e., the principles or

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[11] I work with functions essentially for heuristic reasons. The results carry over equally well to social welfare orderings, choice functions and functionals defined in the more abstract space of quasi-ordered preference profiles. Comparability and asymmetry of (ordered) pairs of worlds is all, strictly speaking, that we require here.

[12] I take the "complete description" locution from Kaplow & Shavell (2001).

[13] "Analysts" might also be called, per a venerable idiom, "planners," or "the planner."

[14] Most people who read this paper, for example, are likely, like the person now writing it, to be "analysts" in the requisite sense, and to have taken interest in analysis of this sort pursuant to some hope of rendering the world "better" in some sense that is not strictly hedonic, solipsistic or incapable of justification by reference to preference-independent *reasons*, i.e., norms. Nearly all if not indeed all of us, I suspect, are thinking in terms of what "ought" to be done, rather than strictly in terms of what we arbitrarily "want" to see done.

second-order preferences guiding the judgments of) the same, are among the facts figuring into the aforementioned normatively complete descriptions of possible worlds.

Now let X be the set of possible worlds invariant in N. We are interested only in possible worlds inhabited by the n individuals i who jointly constitute N.

A *social welfare function*, W, is, familiarly, a ("direct," i.e., simple, or "indirect," i.e., composite) mapping from the set of possible states of the world that concern us, X, to the real line, $\mathbb{R}$. Formally, $W: X \rightarrow \mathbb{R}$. As use of the term "welfare," which derives etymologically from the notion of "faring well," suggests, one possible, and indeed the usual, interpretation is that W's assigning a greater $\mathbb{R}$ value to world x than to world x' corresponds to x's being found to be in some sense "faring better than," or simply "better than" or (second-order) "preferable to" world x'.

An individual i's *preference function, U_i*, is also a (simple or composite) mapping from X onto $\mathbb{R}$, again one possible, and indeed the usual, interpretation being that greater $\mathbb{R}$ values correspond to some conception of "preferredness." Formally, $U_i: X \rightarrow \mathbb{R}$.

As noted parenthetically in the previous two paragraphs, a social welfare function W or an individual preference function U_i can in principle be simple ("direct") or composite ("indirect"). Where individuals assign some worlds higher or lower real-numeric valuations than other worlds in virtue of (one or more) variable *properties* of those worlds, for example, they effectively prefer worlds "indirectly," via their separate attributes, in functionally composite fashion. The individual i's preference function in such case takes the form $U_i(f_1(x), \ldots f_m(x))$, where each f represents a feature of x in virtue of which it may score "more" or "less" highly in i's preference schedule. Where $m > 1$ in such case, i must of course commensurate – comparatively "weight" – and then aggregate f scores in order to arrive at a scalar $\mathbb{R}$ value to assign x.

Likewise, when a social welfare function W maps possible worlds x onto $\mathbb{R}$ in a manner responsive at least in part to individuals' mappings of those worlds onto $\mathbb{R}$, it too is effectively composite. It is a function, at least in part, of at least one other function – viz. one (or more) individual's (or individuals') preference function(s). It thus takes the form, in whole or in part, $W(U_1(x), \ldots U_m(x))$. Where $m > 1$ in such case, analysts must of course commensurate – comparatively "weight" – and then aggregate U_i's in order to arrive at a scalar $\mathbb{R}$ value to assign x. Decisions about how so to weight individual preference functions of course amount to decisions concerning distributive fairness, or justice.[15] Such decisions, like those concerning what indeed to count W's domain of arguments at all, are decisions concerning what makes a world better not simply per somebody's first-order preferences, but better full stop; such decisions are considered to be the "right" decisions per the analyst's principled (or "second-order preference") estimation.

Combining the aforementioned individual preference and social welfare cases, one should say technically, using the standard functional notation, that social welfare $SW = W \circ U_i \circ f_j$ for all i and j. Because the present analysis will not hinge on the compositions of individuals' first-order preference functions, however, we shall take

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[15] One sees at once, in this connection, that something has gone terribly wrong in the thinking of those who find themselves tempted to speak of such pseudo-conflicts as that named by "fairness versus welfare," a locution that registers a rudimentary category mistake. (Fairness is a pattern of distribution, welfare an object of distribution; welfare itself is distributed fairly or unfairly.) But more on this below, in section 4.

interest only in functional compositions of the form $W \circ U_i$, or, rendered more simply, $W(U_i(x))$.

As noted in passing through the previous several paragraphs, the internal structure of either a social welfare function W or an individual preference function U_i can in principle be not only "direct" (simple) or "indirect" (composite). It can also (and quite distinctly) be multivariate, mapping vector values (either directly or indirectly) onto $\mathbb{R}$, or univariate, mapping scalar values (either directly or indirectly) onto $\mathbb{R}$. The multivariate cases simply are those in which m > 1 per the foregoing paragraphs. (Multiple fs in the U_i case, or multiple U_is (possibly with other arguments as well) in the W case.)

In such multivariate cases, the mappings that are the preference or social welfare functions in question amount to correlations of pairs of vectors (n-tuples) and worlds, on the one hand, with single numeric values R along $\mathbb{R}$ on the other. That is to say, they are of the form $(((f_1, f_2 \ldots f_n), x), R)$. Equivalently, one can describe these as mappings of vectors (n-tuples) onto pairs of worlds x and numeric values R, of the form $((f_1, f_2 \ldots f_n), (x, R))$.

2.3. *The Model Sharpened*

I turn now to sharpening, or "fine-tuning" the standard apparatus a bit, essentially in order to ensure that a clear distinction between prescribing and describing can be strictly maintained throughout the analysis. (The current lack of means to give systematic expression to this distinction in the standard apparatus, I believe, leaves it prone to subtle conflations.) Once these minimal adjustments to the standard model are in place, the proofs offered in section 3 are straightforward and their import is clear.

DEFINITION 1: A *preference-regarding* social welfare function, W_{pr}, is a composite social welfare function of the form $W(\bullet , U_1(x), \ldots, U_m(x))$ the immediate domain of (non-"dummy" arguments of) which includes, but need not be limited to, m individuals' preference functions U_i, and that is monotonically increasing in the value of each of its individual U_i arguments. It is of course possible in such case that there exist x, $x' \in X$ such that $U_i(x) = U_i(x')$ for all i and yet $W_s(x) \neq W_s(x')$. It is also the case here that n might exceed m. In such case W_{pr} could be characterized as "elitist." (The preferences of some members of N "would not count.") If m were precisely 1, W_{pr} could be characterized as "despotic" or "monocratic."

COMMENT 1: "Preference-regard" corresponds to what some since Samuelson (1947) have called "individualism," and what some (albeit fewer) since Sen (1977) have called "welfarism." Because regard for persons' preferences is what is in fact distinctive here, while "individualism" is quite imprecise and "welfarism" both is ambiguous about welfare's determinants and encourages conflation of the mere "is" of positive individual demand with the traditionally more resonant "ought" of normative social command, we should regard "preference-regard" as preferable.

DEFINITION 2: A *strictly preference-regarding* social welfare function, W_{spr}, is a preference-regarding social welfare function of the form $W(U_1(x), \ldots, U_m(x))$ the domain

of (non-"dummy" arguments of) which is restricted to individuals' preference functions U_i alone. Hence it is a social welfare function for which there exist no $x, x' \in X$ such that $U_i(x) = U_i(x')$ for all i and yet $W(x) \neq W(x')$. Thus the following hold true: $\forall i \in N; x, x' \in X$: $U_i(x) > U_i(x')$. $\supset$. $W_{spr}(x) > W_{spr}(x')$. And: $\forall i \in N; x, x' \in X$: $U_i(x) < U_i(x')$. $\supset$. $W_{spr}(x) < W_{spr}(x')$.

COMMENT 2: "Strict" preference-regard corresponds to what most others (than those mentioned in Comment 1) since Sen (1977) have called "welfarism." Because it is possible for an SWF to respond positively either to first-order preferences alone, or to such preferences along with one or more other factors that an analyst might find to render a world better when present therein, we require an adjective that can distinguish between the two cases. "Strict" seems an appropriate such adjective, particularly given its analogous employment in other formal contexts.

DEFINITION 3: A *prescriptive* social welfare function, W_P, is a social welfare function that can be used to give complete and precise formal expression to those normative principles (or "second-order preferences") by reference to which an analyst might adjudge possible worlds "better" or "worse." (A *descriptive* social welfare function, W_D, is simply a social welfare function that is not prescriptive.)

COMMENT 3: A distinction between prescriptive and descriptive social welfare functions is ultimately rooted in a distinction between uses to which social welfare functions might be put. A social welfare function ordinarily employed (alas, incompletely[16]) to formulate normative judgments or prescriptions might, for example, be used instead (either advertently or inadvertently) simply to formulate a descriptive report – say, a description of resource allocations over individuals with which corresponding levels or amounts of some aggregate output (GDP, say, or "hedonic pleasure" as measured in endorphins) are empirically associated. Such outputs would be matters in respect of which the analyst reserved normative judgment, committing herself to no particular prescriptive attitude. Social welfare functions often seem to figure in this way in the social choice literature, suggesting that it would be helpful to have at hand some formal means by which SWFs might be made transparently to indicate whether they give expression to fully prescriptive judgments or merely descriptive reports on particular occasions of use.

The want of a standard, straightforward formal indicator marking off social welfare functions in their prescriptive, as distinguished from their descriptive employments accounts, I suspect, for frequent conflations of preference with principle, or first-order with second-order preference, hence ultimately of "is" with "ought," in some of the welfare economic and social choice literature.[17] It is with a view to disentangling these systematic unclarities that the terms "W_D" and "W_P" are introduced. The next

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[16] A descriptive SWF can only "incompletely" formulate a normative judgment or prescription for reasons that emerge below, in the proofs derived in section 3 and the discussion of those proofs' significance in section 4.

[17] There are other sources of this conflation as well, I am inclined to suspect. A remark of Pareto's (1906: 318) seems apposite: "In general, men are prone to give their private demands the form of general demands." But more on such speculations below, in section 4.

concept is introduced in order to give expression, in the apparatus of SWFs, to a *particular* evaluative judgment to which anyone who prescribes commits herself, at a bare minimum, in any act of prescribing. It is an implicit judgment that comes to light (a "second-order preference" that is "revealed," so to speak) the moment we take care expressly to distinguish prescriptive from descriptive inquiry or activity.

DEFINITION 4: A social welfare function W is *incumbent*, or equivalently, *decisive*, insofar as an analyst actually conducts or communicates prescriptive assessments of possible worlds either with it or pursuant to the principles to which it gives formal expression. Note that W's being incumbent or not is a feature of the world, hence is partly constitutive of x, the world as normatively-completely described per the first paragraph of 2.2.

COMMENT 4: The fuller significance of incumbency emerges in Axiom 1, below. See also section 1 and subsection 2.1. I'll address anticipated objections to incumbency, and to the claim made immediately below concerning prescriptive social welfare functions' valuing their own incumbency, below in section 5.

I now request the reader's assistance in assessing the seeming self-evidence of the following axiom, which I can see no way of plausibly denying:

AXIOM 1—Minimal Prescriptive Incumbency: All else being equal, a prescriptive social welfare function WP deems a world better, i.e., assigns to it a higher value along $\mathbb{R}$, if WP is itself incumbent in that world. Somewhat more formally, $\forall x, x' \in X$, if x is a world in which WP is incumbent and x' is an otherwise identical world in which WP is not incumbent, then $WP(x) > WP(x')$.

REMARK 1: Here is why the Axiom seems to me self-evidently undeniable: If I engage in normative inquiry, I think normative inquiry to be a good thing. (The judgment seems to be latent in my engagement itself, rather as first-order preferences are "revealed" by trading or consumption behavior.) But if I think it a good thing, then I think the world better for my doing it, at least if I am indeed in that world. A good thing happens in that world by dint of my doing to good thing that is engaging in normative investigation; hence the world is a better world, ceteris paribus, for my having done so.

Now the SWF in which I formally register the results of my normative investigation, for its part, is meant to give complete expression to my normative judgments. It does so by assigning real numeric values to possible worlds, which, recall, per the standard model are meant to be completely described. For such descriptions to be complete, they must register the fact that I have engaged or am engaging in normative investigation itself – a fact of the world, with normative significance. How then can the genuinely prescriptive SWF not value its own incumbency as defined by Definition 4, *ceteris paribus*?

A few further, related observations would seem to be in order here: Note, for example, that the prescriptive SWF's valuing of its own incumbency would seem to correspond to, or be in some way conceptually bound up with, one apparently fundamental distinction between principled prescribing (or judging) and bare preferring,

i.e., between normative judgment and positive observation, or "ought" and "is," in particular:

When I prefer, I need not "prefer my preferring." I do not apparently commit myself, *ipso actu*, to the claim that preferring itself is preferred or to be preferred, let alone that it is intrinsically good – "good in itself," so to speak.[18] I may simply prefer, as any unreflective animal prefers. Preference need not implicate reflectivity of any sort. Hence there is no conceptual space for some counterpart to incumbency in the case of an individual's first-order preference function.

In the case of normatively judging or prescribing, however, things seem to stand rather differently. Self-referentiality seems to be written into the structure of normative prescription in a way that it does not in the case of positive preferring: I prescribe or adjudge on the basis of reasons, of normative principles. And the same reasons that entail the good of the descriptive content of my prescriptions or judgments – i.e., the facts or the acts I judge good – entail the good of my prescribing or at least judging itself – i.e., of my endeavoring to ascertain what is good and then adopting such attitudes and/or behaviors as suitably register the results of that normative investigation.[19]

In the case of normative judgment or prescription, then, the same reasons that deem the descriptive content of the judgment or prescription good appear to deem the acting – the inquiring and the judging or prescribing – to be good as well. But in the case of preferring, again, that which renders the preferred item preferable need not, it seems, render the preferring itself preferable. It is this fundamental distinction between preference and principle, a distinction mirrored in that between positive description and normative prescription, which the prescriptive SWF's valuing its own incumbency per Axiom 1 both registers and tracks.

Note finally that the incumbency registered in Axiom 1 as being valued by the prescriptive SWF is *minimal*. It involves no more than the function's registering the good of the analyst's engagement in her analysis. In the actual world, many if not most analysts, particularly those in the academy, appear effectively to value a rather *stronger* form of incumbency: They generally endeavor, through reasoned argument, to convince others – at the very least other analysts, and typically actual policy-makers and sometimes just educated laypeople as well – to "see things their way," normatively

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[18] I might of course happen to think that it is (e.g., on grounds that one is not "really living" if one does not prefer, as one sometimes hears some people, particularly those of a Nietzschean persuasion, complain of the Buddhist advocacy of renunciation and self-abnegation); but I am not *committed* to thinking so by dint of the preferring, as distinguished from the decision to allow myself to prefer after engaging in some form of self-examination. Quite unreflective nonhuman animals, after all, appear to harbor and act upon preferences, while not apparently harboring or acting upon any preferences about preferences on that account.

[19] Note that I do not commit myself here to anything one way or the other as to what those attitudes might be, or how they might be codified in any particular action-guiding prescriptive maxim enunciated to oneself or others. I thus need take no position in respect of Brink's (1989) distinction between "choice criteria" and "decision procedures," or of Parfit's (1984) and Dancy's (1993) dispute over some moral theories' potentially "direct" or "indirect" "self-defeat" or "self-effacement" when enunciated or put into practice. Nor, relatedly and finally, need we concern ourselves here with debates over "esoteric" moral theories and their potential violation of "public reason" ideals or requirements. The point here is both more fundamental and more general in character, applying to "inward" normative judgment, "outward" normative prescription, and normatively guided action alike.

speaking. Hence they seek to convince others to favor the same policies for the same normative *reasons* – i.e., on the basis of the same normative principles or "second-order preferences" – as do they. These analysts' actions accordingly indicate that they value, in effect, the incumbency of their principles upon the analyses of others as well as themselves. That's more than minimal incumbency.

Here, though, again, we restrict ourselves to the minimal, least contestable claim in respect of the prescriptive SWF's valuing of its own incumbency. That is, per Axiom 1, its simply registering the good, in the analyst's judgment, of the analyst's seeking to ascertain and employ the normatively best social welfare function itself.

The following concept is implicit in that of any multivariate function. But it is implicated with particular salience by the distinction between prescriptive and descriptive social welfare functions, as we'll presently see:

DEFINITION 7: Call a subset (○) of a function's full set of arguments (●, ○) the function's "subdomain." Where (○) is the set of individual preference functional components of a preference-regarding social welfare function W_{pr}'s full set of arguments, call it W_{pr}'s "preference subdomain." Finally, call W_{pr} as applied to its preference subdomain alone the "preference-regarding subfunction" $W_{pr/○}$ of W_{pr}.[20] We shall say that a preference-regarding social welfare function W_{pr}' *preference-wise replicates* (symbol "$\approx$ ○") another preference-regarding social welfare function W_{pr} in world x when and only when W_{pr} and W_{pr}' share a common preference-regarding subfunction with respect to x, i.e., when and only when W_{pr} and W_{pr}' share a common preference subdomain with which is associated the same world and numeric value pair (x, R). Somewhat more formally, $W_{pr}(x) \approx ○ W_{pr}'(x) . \equiv . W_{pr/○}(x) = W_{pr}'/○(x)$.[21]

COMMENT 7: The concept of one social welfare function's preference-wise replicating another is introduced simply to afford ready means of registering the prospect that two such functions' argument domains might be coextensive with respect to the preference functions that are among (or that exhaust) their elements, and that the persons whose functions are thus shared by the functional domains might receive identical allocations of preferred resources in two worlds x and x' , while the two functions nevertheless do not assign x and x' the same values along $\mathbb{R}$ because some feature of worlds to which some *other* element of a function's full domain might be sensitive varies between worlds.

Precisely this prospect is, of course, raised by the distinction between prescriptive and descriptive social welfare functions because social welfare functions might but need not be employed to formulate normative judgments or prescriptions, i.e., be rendered

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[20] The computational term "subfunction" seems intuitively apt here in light of its resonance with the familiar "subdomain." Mathematical purists will recognize "subfunction's" synonymy with the more traditional function-theoretic "restriction." If D is the domain of $W(●, ○)$, $D●$ the subset of D's "●" factors, and $D○$ the subset of "○" factors, then since W is $W: D \rightarrow \mathbb{R}$, the "subfunction" $W○$ is simply the restriction of W to $D○$, i.e., $W | D○$, or $W○: D○ \rightarrow \mathbb{R}$.

[21] By way of paradigmatic example, if $W(●, ○)$ is a weighted sum of its arguments, then $W(○)$ is the subfunction resulting when we "drop" – weight at zero – all arguments (●). Where (○) is the set of individual preference functional components of a *preference-regarding* social welfare function W_{pr}'s full set of arguments, $W(○)$ is what I am calling "$W_{pr/○}$."

incumbent by resulting from or figuring into actual judgments or prescriptions. For, again, as noted above, a function can be employed to describe allocations of preferred benefits, dispreferred burdens and so forth over individuals, and can correlate "levels" or "amounts" of some aggregate that varies in response to varying such allocations, without thereby committing the analyst to any normative judgment or prescription concerning those allocations or associated aggregates at all.

I now request the reader's assistance once more, in assessing the seeming self-evidence of the following axiom, which like Axiom 1 I can see no way of avoiding:

AXIOM 2—Replicability: *For any prescriptive preference-regarding social welfare function $W_{P/pr}$, and any possible world x, there is a strictly preference-regarding social welfare function W_{spr} which preference-wise replicates $W_{P/pr}$ in x.*

REMARK 2: Simply take $W_{P/pr}$'s preference-regarding subfunction $W_{pr/\circ}$, by way of immediate example.[22]

3. THE RESULTS

We turn now to the results, which are readily derived in the augmented model. The first result concerns strict preference-regard (strict "welfarism"). The second concerns Paretianism.

3.1 *Prescription vs. Strict Welfarism*

LEMMA: *If all persons i whose preference functions jointly constitute the preference-regarding subfunction $W_{pr/\circ}$ of a social welfare function W_{pr} assign the same value to two worlds x and x', so does the subfunction. Formally, $\forall i: U_i(x) = U_i(x') . \equiv . W_{pr/\circ}(x) = W_{pr/\circ}(x')$.*

PROOF: This follows straightforwardly from Definition 7 of a preference-regarding subfunction of a social welfare function and Definition 2 of a strictly preference-regarding social welfare function.

We're now positioned to show strict preference-regard's inconsistency with prescription.

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[22] Replicability is of course connected, by the way, to a familiar entailment of the "first fundamental theorem of welfare economics" – viz., that for any efficient allocation *x*, there exists some SWF whose domain comprises a weighted sum of concave, continuous and monotonically increasing preference functions that *x* maximizes. (See, e.g., Varian (2003): 290.) Such SWFs would be, in an infinite number of cases, quite arbitrary from the point of view of any known normative principle that might prompt and guide normative assessment. Insofar as it is prescriptively arbitrary, in turn, such an SWF will be merely descriptive; it will do no more than mathematically characterize an allocation, irrespective of any cognizable sense in which that allocation is socially "good" or "right."

PROPOSITION 1: *No prescriptive social welfare function is strictly preference-regarding.*[23]

PROOF: Assume a world x in which the prescriptive social welfare function W_P is incumbent. Assume, per Axiom 2 (Replicability), another world x' in which W_P is preference-wise modeled but not incumbent. We then know the following to hold true: By Observation 1, $W_P(x) > W_P(x')$. Hence $W_P(x) \neq W_P(x')$. But by Replicability and the Lemma, $U_i(x) = U_i(x')$ for all i. Hence by Definition 2, W_P is not strictly preference-regarding. *Q.E.D.*

3.2 *Prescription vs. Paretianism*

By dint of its linkage to strict preference-regard, Paretianism is readily shown to be likewise inconsistent with prescription, as we'll now demonstrate.

DEFINITION 9: A social welfare function W is "Paretian" if and only if it satisfies one or more of the Pareto indifference (PI), weak Pareto (WP) or strong Pareto (SP) conditions. Somewhat more formally: Either PI holds of W, i.e. $\forall i \in N; x, x' \in X: U_i(x) = U_i(x') . \supset : W_p(x) = W_p(x')$; or WP holds of W, i.e., $\forall i \in N; x, x' \in X: U_i(x) > U_i(x') . \supset : W_p(x) > W_p(x')$; or SP holds of W, i.e., $\forall i \in N; x, x' \in X: U_i(x) \geq U_i(x') \ \& \ \exists i \in N; x, x' \in X: U_i(x) > U_i(x') . \supset : W_p(x) > W_p(x')$.

COMMENT 9: So-called "full Pareto" (FP), defined in the literature as the conjunction of PI and SP, is of course trivially embraced by Definition 9. Definition 10 and Proposition 2, below, will afford warrant to our lumping all versions of Pareto together as here.

SUPPOSITION—Normal Good Profile: There exists at least one indefinitely divisible resource, or profile of such resources, r, which, were every individual i to possess an increment $\varepsilon > 0$ more of it, would leave each individual i more satisfied. Somewhat more formally, taking $r_i/r(x)$ for each person i's allotment of r in world x, and $r_i/r(x')$ for i's allotment of r in world x', we have $\forall i \in N: r_i/r(x) - r_i/r(x') = \varepsilon . \supset . \forall i \in N: U_i(x) > U_i(x')$.[24]

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[23] Note that, by Definition 3, if this Proposition holds true, then a strictly preference-regarding SWF can at most be descriptive.

[24] One could word this somewhat more technically by saying that each U_i is responsive only to i's own allotment, not to others' allotments, of the resource r and is at least weakly continuous and monotonically increasing in that allotment. See, e.g., Suzumura (2001). By "weakly" continuous here I mean simply that if $r_i/r(x) > r_i/r(x')$, then there is a neighborhood $V(r_i/r(x'))$ of $r_i/r(x')$ all of whose members $r_i/r(x)$ exceeds. See, e.g., Campbell & Kelly (2002).

I proceed for the most part in what follows as if the Supposition is to be understood in terms of the single resource r, but do so only for the sake of simplicity in exposition. The same idea could, with a bit more complexity, be put forward in terms of each individual i's preferring x' to x by virtue of the former's yielding an added increment of *some* resource or other feature of the world represented by "r," the specific r's potentially differing from individual to individual, each being anything at all by virtue of which somebody might prefer a possible world. (The r's might, that is to say, be indexed by individual, such that

REMARK 3: This supposition serves as a counterpart to the unnamed "Assumption" advanced in Kaplow & Shavell (2001), which restricts itself to a single good. A profile of goods, such that different goods play the same role for different persons, will do just as well. I trust that the reason for the name is clear: The resource (or profile) here specified affects preference-satisfaction precisely as do the normal goods familiar to price theory.

Note that the Supposition serves, moreover, indeed as a supposition, rather than as an assumption or axiom. It is set forth in order to set the stage for a definition, namely that of a "consistently Paretian" social welfare function, which is defined, next, as a social welfare function which behaves in particular ways when the Supposition holds, but might not so behave when the Supposition doesn't hold.

DEFINITION 10: A social welfare function W is *strictly Paretian* if and only if for each individual i it is at least weakly continuous and monotonically increasing in $r_i/r(x)$ when ever the Normal Good Profile Supposition holds.[25]

COMMENT 10: Specifying a few implications of Definition 10 in prose might facilitate more immediate intuitive grasp both of the next proposition and proof and of their import. Here then is the intended interpretation:

A strictly PI social welfare function allows no value apart from (first-order) preference-satisfactions – including, for example, incumbency per Definition 6 above, which any prescriptive social welfare function per Axiom 1 will at a bare minimum count for something – to count for anything in determining an optimum. So a strictly PI SWF will represent the world as unambiguously improving or worsening precisely insofar as it gains or loses – even if but infinitesimally – in the quantum of r that it contains, quite irrespective of any accompanying loss or gain in respect of the incumbency of some principle or second-order preference such as that which finds expression in the social welfare function itself. If everybody likes ice cream, for example (and surely everybody likes ice cream), the addition of (even an arbitrarily small fraction of) one scoop of ice cream to the world will be deemed by the consistently PI social welfare function to render the world infinitely better than has the analyst's having elected to ascertain and employ the most normatively appropriate social welfare function in her analyses, even if it is this social welfare function itself that she has found to be most normatively appropriate in this sense.

Strictly WP or SP social welfare functions, for their parts, will not "trade off" so much as an infinitesimally small increment of gain in r, whether the traded increment of forgone gain is itself divided over everyone (WP) or is a traded increment of gain that would be realized by but one person (SP), for any gain, no matter how large, in respect of some other value – again including incumbency per Definition 6 above, which any prescriptive social welfare function at a bare minimum will count for something. A

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r for person i_1 is r_1, for person i_2 is r_2, etc. In such case "r" will designate, not a single resource, but a profile of resources corresponding to a set of individuals.) Thanks to Matt Adler for drawing my attention to this prospect.

[25] That is to say that W is itself weakly continuous and monotonically increasing in each individual's allotment of the resource r.

scoop (or arbitrarily small fraction of a that scoop) of ice cream's addition to the world, for example, whether it be divided over everyone or simply added to Dick Cheney's next Halliburton dividend, will be deemed by the social welfare function to constitute a greater improvement to the world than has the analyst's having elected to look for the normatively most appropriate social welfare function and come to employ the result – this social welfare function itself – in normatively assessing possible worlds.

PROPOSITION 2: *No prescriptive social welfare function is strictly Paretian.*

PROOF: There are three cases to consider:

For PI: We know from Sen (1986) that where that portion of the domain of what I have been calling a preference-regarding social welfare function which comprises individual preferences is restricted to a *unique profile* of individual preference functions, weak transitivity and Pareto indifference jointly entail what I have been calling strict preference-regard. (See Fleurbaey, Tungodden & Chang (2004) on this point.) Here we are indeed considering but a single such profile (recall, that of the members of *N*) and at least weakly transitive social welfare orderings (both per our opening remarks in 2.2 and per Definition 10), so our strictly PI social welfare function is strictly preference-regarding. But by Proposition 1, no prescriptive social welfare function is strictly preference-regarding. So the strictly PI social welfare function cannot prescribe.[26]

For WP: Modify the proof found in Kaplow & Shavell (2001), the significance of which the authors misapprehend owing in part to the earlier-discussed inadequacies of their formal apparatus. Modify it, then, (a) partly in keeping with the slightly revised, supplemented apparatus employed in the present analysis, (b) partly in light of observations made by Campbell & Kelly (2002) concerning the needlessly strong assumptions employed in that proof, and (c) partly in light of an elegant cognate proof offered contemporaneously by Suzumura (2001): By Definition 2, we know that if a social welfare function W is not strictly preference-regarding, then $\exists x, x' \in X$: $\forall i \in N$: $Ui(x) = Ui(x')$ and yet $W(x) \neq W(x')$. Now suppose a particular such function and two worlds x and x' for which (a) $\forall i \in N$: $Ui(x) = Ui(x')$ and (b) $W(x) > W(x')$. Next suppose a world x'' identical to x' in all respects save that each $r_i/r(x')$ per the Normal Good Supposition has been increased by $\varepsilon > 0$, so that $\forall i \in N$: $Ui(x'') > Ui(x')$. Now observe that, granted (even weak, per the Supposition and Definition 10, not necessarily Kaplow & Shavell's full) continuity, as well as monotonicity, in $r_i/r(x')$, there is some ε

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[26] Two additional observations are germane in the present connection: First, assuming independence of irrelevant alternatives and unrestricted domain per Arrow (1951) – which many social choice theorists and welfare economists, including Kaplow & Shavell themselves (2000, 2004), appear to find attractive – Pareto indifference proves equivalent to what I have been calling strict preference-regard even in respect of *all possible* profiles of individual satisfaction functions, rather than simply in respect of a unique such profile, meaning that we could dispense with the latter assumption. See again Sen (1986). Second, under a weak set of four assumptions three of which – viz. (a) one indefinitely divisible resource, in which individual Ui's and W are (b) continuous and (c) monotonically increasing – are largely incorporated into the analysis here and one of which – compensability in increments of the divisible resource – is commonly invoked in the literature of fair allocations and presumably acceptable to such as Kaplow & Shavell as well, all three Pareto criteria have been proved to be jointly equivalent. See again Suzumura (2001). Were we to assume compensability, then, which one suspects most Paretians would happily do, the proof of Proposition 2 would now be completed.

sufficiently small that our W, which, recall, is assumed not to be strictly preference-regarding, will rank worlds thus: $W(x) > W(x'')$. In that case since, per (a) just above we have supposed $\forall i \in N: Ui(x) = Ui(x')$, it must also be the case that $\forall i \in N: Ui(x'') > Ui(x)$. Hence if weak Pareto is satisfied, $W(x'') > W(x)$. But that contradicts what we found supposing weak continuity and monotonicity per the Normal Good Supposition. Hence the strictly WP social welfare function per Definition 10 relinquishes non-strict preference-regard. (It has to be *strictly* preference-regarding.) But by Proposition 1, with that it relinquishes its capacity to prescribe.[27]

For SP: Strong Pareto trivially entails weak Pareto. What is true of the WP case here is accordingly true *a fortiori* of the SP case. (SP ⊃ WP; WP ⊃ no prescription; ⊢ SP ⊃ no prescription.) Hence the latter too is incapable of prescribing. *Q.E.D.*[28]

4. THE RESULTS' SIGNIFICANCE

I'd like now to say a bit more about what I take for the fuller significance of the results just derived. I'll also hazard a tentative diagnosis of how what the results indicate has managed to remain hidden for so long.

The results indicate that strict "welfarism" and Paretianism are inconsistent with normative judgment and prescription, and indeed even with normative investigation itself. In order to adjudge or prescribe normatively, and in fact to engage in any form of normative inquiry at all, one must acknowledge at least one value additional to preference-satisfaction: At a bare minimum, she must acknowledge the value of the normative investigation itself – that is to say, the value of working to ascertain "what should be done." In the context of an inquiry concerning social welfare, that is the value of working to ascertain, among other things, what to do about which (often conflicting) preferences.[29]

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[27] Note that this portion of the proof goes through even when W is replaced by a weaker, nontransitive ordering relation falling short of functionality. See, e.g., Campbell & Kelly (2002, pp. 80-81).

[28] I'll note here that Chang (2000a) constructs a number of interesting *mixed* "liberal consequentialist," or equivalently "Paretian liberal" social welfare functions that *reject* continuity. These in effect give formal expression to the venerable mixed teleological/deontological systems of ethics pursuant to which maximization of one or more goods is enjoined, subject to a side constraint sounding in rights to fairness or some basic minimum. See, e.g., Fuller (1964) (jointly operative moralities of "aspiration" and "duty"), Calabresi (1970) (lexicographically ordered "just[ice] or fair[ness]" and cost-minimization as goals of accident law), Rawls (1971) ("right" ordered as prior to "good"), Dworkin (1977) (rights as "trumps") for canonical articulations. Chang's social welfare functions also of course escape the consequences of the proofs I here offer, particularly in such circumstances as those in which their non-Paretian components kick in. They are not *strictly* preference-regarding or Paretian. This leaves them in better stead than any social welfare functional that Kaplow & Shavell might have in mind, which Proposition 2 indicates would be incapable of formulating any normative judgment or prescription at all. I nonetheless think, by dint both of the results reached above in the text and of the interpretation of these results which I offer below, that we'll do best ultimately to abandon Pareto entirely for purposes of prescriptive welfare economics or social choice theory.

[29] When we formulate the answer to such questions in the form of an SWF, the reply to the "which" question of course specifies the argument domain, and that to how to resolve conflict specifies the SWF's aggregation rule.

Now because this investigation is in turn ultimately an inquiry into what preferences ought to be satisfied (and indeed even to be so much as "counted"), the value of the investigation cannot *itself* be understood merely as that of satisfying a preference, at least not a preference that is on the same "level" as other preferences. The normative question is "above" preferences, so to speak, precisely in the sense that its answer constitutes an *adjudication* of preferences. Normative investigation accordingly satisfies, not a mere preference, but a *principle* – a norm that is *incumbent* upon preferences. It is addressed to the question of what to do about preferences themselves – which ones to count, which ones to satisfy, and why.[30]

Now, the moment that we *acknowledge* the importance of the "what to do" question and hence the value of addressing and answering it we immediately do two things more as a matter of logical entailment: First, we rule out strict welfarism. For the value that we acknowledge our addressing the normative question to possess is not itself the value of preference-satisfaction. It is the value of determining *which* (always potentially conflicting) preferences to satisfy, how much, and why.

And second, we rule out adherence to Paretianism. For in answering our "what to do" question we open the door to the possibility, "in principle," that under some circumstances[31] one or more of the familiar Pareto criteria might be overridden by what ever normative principle we have ascertained to be most compelling in formulating our answer to that "what to do" question – i.e., in formulating our SWF.

Now again, it seems to me that none of this ought, on reflection, to be all that surprising. So then why might the results derived in section 3 ring at least initially counterintuitive? Why, that is to say, have we thought it plausible to advocate strict welfarism and Paretianism as *normative* orientations? How could we have thought them reasonable and indeed even attractive conditions to impose upon putatively normative social welfare prescriptions?

My conjecture is that there have been several mutually reinforcing factors at work here, most of them for many decades. One of the factors is quite narrowly formal in nature. Another is somewhat more broadly conceptual t and terminological, while still another is yet more broadly discipline-sociological in character. I'll take them briefly in turn, proceeding from narrow to broad.

4.1 *Formal Lacunae*

To begin with the simplest factor of all, the formal one: Ever since Bergson first introduced the apparatus of social welfare functions seventy years ago, the purpose

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[30] We don't tend to count nonhuman animals' preferences, for example. Why not? Is it simply because they have not asked? What ever reason we give by way of justification here is apt to be a reason that is itself something more than a bare first-order preference. One does not answer, for example, by saying merely, Bartelby style, "because I prefer not to," or "because Dick Cheney prefers me not to." One appeals, rather, to a normative principle that she takes to be incumbent upon preferences – what I've also been calling a "second-order" preference. In general, one should ask oneself, "do I prefer it because it is good, or do I think it good because I prefer it?" Where the first alternative is found to be the answer, one has been appealing to principles, reasons that are incumbent upon preferences rather than merely being preferences.

[31] Even if only remotely likely such circumstances, as we'll note further below.

conceived for them has been that of "stat[ing] in a precise form the value judgments required for the derivation of the conditions of maximum economic welfare" advanced by prescribers. (Bergson (1938): 310.) And ever since Bergson, we have managed systematically to *leave out* what amounts in a sense to the most important such value judgment of all:[32] The judgment, analytically entailed by the normative enterprise itself, that it is valuable to *address and properly answer* the question of how to optimize social welfare in the first place.

Now this is an easy value judgment to miss. And the same cause that renders it so – in essence, its triviality – can also quite understandably lead us to wonder why it should require singling out. It is, after all, the one value judgment which we can be certain that *all* schools of thought on the matter of social welfare have in *common*. And since it is therefore invariant across all *competing* approaches, why not just leave it aside so that points which are actually at issue might be the focus of our attentions? It is quite literally granted; so what's the harm in *taking* it for granted? It would be no more than irritating, after all, were we required ritually to say, in every disputation that we conduct over values, "well, at least we all agree on the value of carrying on this discussion." I for my part feel violently ill when I hear things like this; it's too reminiscent of platitudes I heard in kindergarten.

Now ordinarily, in informal and conversational contexts, this reaction is fine, even apt. But things are quite critically different in the more formal contexts of work with SWFs. For recall that the point of the SWF is, among other things, to give proper expression to quite literally *all* (Bergson's "the") value judgments which enter into our comparative valuing of possible states of the world. We seek to do so precisely in order to position ourselves to trace out *all logical entailments* of our *full set* of value commitments with care. And if we *do* view a world as better for our engagement in normative investigation itself into what factors render worlds better, then for the SWF to be complete it must register this. If this value is indeed a value distinct from the value of preference-satisfaction, moreover, then the SWF to be precise must register *that* fact as well. It cannot then be exclusively ("strictly") preference-regarding.

It is important to recognize that this isn't a matter simply of Pickwickianly insisting on a pretense that what usually both can be and is taken for granted is actually in dispute. It is, rather, a matter of being explicit about everything – truly everything – in virtue of which we view possible worlds as being better, precisely in order critically to examine and clarify our normative thinking as fully as possible.

And so, unsurprisingly, the price of failure to be explicit in this case has been, indeed, systematically and persistently muddled thinking. For by effectively codifying, in our SWFs constructed per the standard model, our conflation of normativity and positivity – i.e., of the prescriptive principles that are incumbent upon preferences with those preferences themselves – we consolidated and perpetuated that conflation. We have rendered it impossible to give expression to, hence readily to see, the *distinction* between normativity and positivity. "The limits of my language are the limits of my world," it has been memorably said (Wittgenstein (1921): 5.6); and in this case the limit in question has been a blindspot in respect of normativity itself.

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[32] The sense in which it is most important of all is that, if we did not adhere to it, we would not reach any other value judgments.

Now the "language" of SWFs is of course such that there are but two ways to give any form of expression to normative principles or values of any sort. One way is by selecting an argument domain. The other way is by means, at least in the case of a multivariate SWF, of an aggregation rule – a weighting of variables. So it might then be thought, if I may borrow more language from the fellow just quoted, that an SWF need not "say" anything about its aggregation rule, because this rule is "shown" (idem.). It's implicit in the fully formulated function, the argument might run; it "makes itself manifest" therein (idem.). And this would perhaps be well and good were we to take care to remain mindful in such case that the SWF would *not* then, *pace* Bergson, be a complete "statement" of all of our value judgments, since the structure of a statement (that which is "shown," or "manifest" in the statement) is not itself the statement.

But it seems, alas, that we do *not* remain mindful of this. We tend naturally to think of our SWF as remaining true to the Bergsonian program, hence as indeed actually *saying* everything – as being complete – in respect of our value judgments concerning possible states of the world. That, after all and again, is what SWFs are *for*; we use them precisely in order to rope-in and comparatively weight *everything* that we care about, precisely in order in turn to trace all of the pertinent logical consequences of our *full sets* of values. And so, for example, if our SWF does not explicitly name and speak *about* principles (in this case, fairness principles) of the kind that have determined its own aggregation rule, we'll tend quite naturally to slip into the error of thinking that there is no space in our value judgments for fairness at all. "To be is to be the value of a variable," quoth the oft-quotable Quine (1951: 15); hence it will seem that what doesn't figure into the argument domain just cannot be.

But fairness *does* exist as a value of the kind that enters into our value judgments – as a regularly named and deliberately acted upon norm, not just an arbitrary or accidental shape that a merely descriptive SWF happens to manifest. And it is a value that has to be *acknowledged and acted upon* if we are to know what to do with multiple preferences – i.e., to know how to structure our SWF in a manner consistent with our distributive norms. We don't tend to forget this when speaking in a natural language, because in a natural language we have names for principles of appropriate distribution (fairness) and for objects of distribution (welfare-inputs) alike, and we use both kinds of names in communicating with one another about how to construct the normatively best SWF.[33] But we *do* tend to forget it, it seems, in the "language" of SWFs once constructed, owing precisely to the want of a name-space for it.

That's one thing that incumbency does in the model as supplemented in section 2.3. It prevents our forgetting that more than preference-satisfaction has to be valued in order for *competing* preferences to be *adjudicated*. But incumbency does something more than this too: It keeps us mindful more generally that normativity and positivity, prescription and description, "ought" and "is," are distinct. It does so by giving distinct play, in distinct variables, to the value of normative investigation – i.e., of seeking after

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[33] This is particularly obvious once we reflect, per Hockett (2007c), upon the fact that normative statements concerning distribution must, to be determinate, specify what is to be distributed, to whom, pursuant to what pattern, and so forth. To say "welfare" is, in effect, to speak to the first of those questions, but it leaves the third one – the pattern one – completely unaddressed. Hence a "strict welfarist," were her speech conducted in natural language consistent with her "speech" conducted in the "language" of SWFs, would be left prescriptively speechless. It is for want of a value for aggregation rules themselves – which "incumbency" per the sharpened model of 2.3 supplies – that we have failed to see this.

what should be done – on the one hand, and the presence of positive first-order preferences that seek satisfaction on the other hand. That, it's now clear, is a reminder we continue to require.

4.2 *Conceptual-cum-Terminological Muddles*

Now to the conceptual-cum-terminological sources of the foundational errors our proofs have exposed. These would seem likely both to have encouraged the formal lacuna identified in the standard model, and in turn to have been reinforced by that shortcoming. Let us take them in order, considering first "welfare" and, in effect, Pareto indifference per Proposition 1, then weak and strong Pareto per Proposition 2.

A. *Strict Welfarism and Pareto Indifference*

Note first here that there is a familiar ambiguity, as between positive and normative, latent in the word "welfare." "Welfare" of course is a very nice word, a venerably compelling and value-fraught word. Who could be against welfare, or what ever is named by its cousins – "happiness," "well-being," "utility" and so forth? No one, I take it, save a few cranks or curmudgeons.[34] So two cheers for welfare, let's stipulate.

But now when we ask what's to *count* as welfare, we encounter some turbulence. I don't mean the familiar concerns with sadistic or "tamed" or "external" preferences, as well considered by Chang (2000a) and canonically raised by Cohen (1989), Dworkin (1977), Goodin (1986), Scanlon (1986) and Sen (1987), among others.[35] I mean something that seems to be more fundamental in the present context, something internal to the very idea of a social welfare function and indeed of normative judgment or prescription itself:

I mean that (a) on the one hand, our commitment to each agent's autonomy in determining what she shall value at first blush might seem to commit us to allowing that "anything goes" so far as "welfare" is concerned.[36] And yet (b) on the other hand, it much more than jars – it's deeply incoherent, in a sense that I'll presently unpack – to say of the thief who succeeds with more theft, say, that "his well-being improves." We don't talk this way, and we find it cognitively forced, not merely terminologically eccentric, to speak otherwise. Are we faced then with "tragedy" here, a choice pitting value against value – say "fairness versus welfare" or some other such nonsense?

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[34] Like Pareto himself, perhaps, who seems in the last decades of his life to have been a notorious misanthrope, residing in haughty isolation with twenty angora cats in a villa built within the municipal walls of a tax haven.

[35] Note, incidentally, that strict Paretians who assent to the Normal Goods Profile Supposition above are committed to there being at least one resource in respect of which there are *not* "external" preferences. That's somewhat puzzling in light of Kaplow & Shavell's (2001) acceptance of the premise on the one hand, their professed (2002) objection to filtering such preferences on the other.

[36] Note that if so, though, then this too shows that we construct our SWFs on the basis of something apart from our first-order preferences alone. For it isn't the case here that "anything goes." And we regard competing candidates for the role of SWF as being, unlike arbitrary preferences, legitimately subject to reasoned argument and rational critique.

Of course not. But we can't quite articulate why till we remove a conflation from the prevalent jargon and fine-tune the model that this jargon has gummed up. For as suggested earlier, the way we dissolve "fairness versus welfare" – and indeed find the phrase to be literally senseless – is: First, by observing that "welfare," the "ought" term, denotes preference-satisfaction – better named by an "is" term – nothing more. And then second, by reminding ourselves once more that any time there is *more than one person* who demands that we satisfy him in a world of scarcity, we effectively must adjudicate claims. And we always do *that*, in turn, by appeal to a norm that's external to – indeed incumbent upon – the claimants and their preferences, hence a norm that might override preferences and thus draw a cut between preference-satisfactions cognizable as well-being, and preference-satisfactions that will be treated as thievery (i.e., as in violation of the norms we adopt to adjudicate). In an SWF, that norm's most obvious location is in the function's aggregation rule. But the selection of the SWF's argument domain, too, of course works to similar effect, insofar as we leave anyone (or any preferring creature) out of account.

It ought to be clear how these observations suffice to dissolve our faux "tragedy." As soon as we articulate a satisfactory mode of adjudication responsive to preferences' not being sufficient to *adjudicate* preferences – that's a conception of fairness – we have in the very act afforded precisely what we take for the *right* demarcation between ethically cognizable *welfare* (a full "ought") and bare *satisfaction* lacking in normative force (an unadjudicated hence unprescriptive "is").[37] The thief per our cited hypothetical, for example, is precisely the fellow who'd take more than his adjudicated – his rightful, his ethically bounded, fair – share. *That's* why we don't say his welfare, as distinguished from his mere satisfaction, improves with his theft.[38] But using the term "welfare" and cognates (let alone even less precise terms like "individualism") to name satisfaction alone simply muddies the waters and obscures this, conflates "is" and "ought," and confronts us with false oppositions.[39] Including that category-mistakenly posited between objects of distribution – here, satisfaction, or "welfare" – and patterns of distribution – like fairness.

The *reductio ad absurdum* of these false oppositions is, in a sense, what we find drawn out in the first proof. The real opposition is that between strict "welfarist" (W) /

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[37] The word "cognizable," perhaps more familiar to lawyers than practitioners of other normative disciplines, seems right here. There are, in the law, demands that quite sensibly do not "rise to the level of" claims. (A suit brought for someone's having thumbed her nose at you, for example.) Such demands, when put forward as (pseudo-) legal claims, are said not to be cognizable by the law or the courts. They do not constitute "causes of action." The intuition here isn't confined to the law. It is common to ethics, for example. See, e.g., Scanlon (1991). The same intuition also appears to underlie Arrow's (1951) remark (p. 73) to the effect that "desires in conflict with reality are not entitled to consideration." "Reality" presumably includes the existence of other persons with claims to fair treatment on a par with our own.

[38] Note that this will be the case in respect of *any* SWF that quantifies over more than one individual's preference function, even a utilitarian one. Any individual who demands satisfaction in excess of that effectively allotted him by the function via its aggregation rule – say by demanding resources which when directed to another would result in a higher aggregate – will be demanding satisfaction not socially cognizable as welfare.

[39] "Individualism" in this context is yet sloppier than "welfarist." The point in normative economics has never been "individuals" versus something else. It has always been individual versus individual, and how to adjudicate *between* individuals, which adjudicating must be done by reference to something other than individuals – some principle of fairness.

Paretian-indifferentist (PI) analysis on the one hand, normative judgment or prescription itself on the other; *not* between "welfare" and "fairness."

B. Weak and Strong Pareto

So much for strict welfarism and Pareto indifference. How about weak Pareto (WP) and strong Pareto (SP)? "Judge or prescribe such that everyone wins," or at least "such that nobody loses." Alas, things don't change. Indeed these two share a common foundational problem with PI hence W, and import a new variation on the problem as well. The first problem, the one shared unvaried with PI and W, is this: We're still dealing with bare preferences here, not binding incumbent principles such as determine an SWF's argument domain and aggregation rule. That's what "win" means in this context, of course; one "wins" when one's preferences are satisfied. But we've seen that we cannot normatively adjudge or prescribe on this basis alone. We can't draw an "ought" from that "is" without more. So it is already doubtful that WP or SP will permit or amount to prescribing if W and PI don't do so.

The second problem, which amounts to little more than a trivial variation on the first, confirms our suspicion. Look what we've done in enunciating our maxim, "judge or prescribe such that everyone wins, or at least no one loses." We've "judged" or "prescribed" in a manner that in every case turns out to be either otiose, adding nothing to the judgment or prescription itself; or incoherent, "judging" or "prescribing" against judgment and prescription themselves. The fact goes obscured only by dint of Pareto's bearing simultaneously "affirmative" and "negative" edges, so to speak, the latter of which cloaks itself behind the former and the former of which rests on our just-diagnosed subtle conflation of "is" and "ought" in connection with W and PI. Let's draw this out:

Consider first the less interesting case, that in which Pareto is "affirmative" in a sense that will presently become clear. (I cannot actually see how such cases could ever arise, but assume them for the sake of Paretian argument, as Paretians themselves tend to do.) In this case we assume choices that are binary – simple yes/no affairs. Some individuals can be rendered "better off" truly at no loss to others. And, crucially, there is no *magnitude* "by which" those rendered better off are so rendered. They simply say "yes." And so "we" do too. Pareto for its part of course "recommends" that we do this in such cases. It says, "Yah, me too," or "OK." That's its "affirmative" edge. We can boost a sort of quasi- or pseudo-aggregate in these cases at no cognizable harm to anyone, so why not go ahead and do so?

Now where this is the case, the crucial point is that we effectively have unanimity by stipulated assumption. We've simply posited a case in which it's assumed there is literally nothing to disagree about. There is no potential distributive conflict over anything that is scarce – in conspicuous contrast, of course, to the usual situation in human societies giving rise to the need to adjudge and prescribe in the first place. Who would ever be against taking what ever action might *yield* such a result? No one, I take it, but the selfsame curmudgeons who'd stand against welfare.

But now here is what seems to have gone unnoticed here: In these cases there simply is no *occasion* for normative judgment or *prescription*. We just do what "we" want; there is no need of an "ought" and so there is no "ought" in play. There is no

conflict to mediate, no set of competing alternatives between which to adjudicate. So "Pareto" in this case means no more than "normativity unimplicated," i.e., "no need of judgment or prescription." That is the sense in which Pareto is otiose in this case. It is normatively redundant, a mere rubber stamp. To think of it as prescriptive in this case is simply to repeat and compound strict welfarism's and Pareto indifference's conflation of the "is" of uncontested preference with the "ought" of principled judgment.

Now consider the more interesting case, which I've called "negative" Pareto for reasons that likewise will momentarily become clear. This is the case in which choices are not simply binary. It might indeed be the case that "everyone wins" (or at least "no one loses"), but they win differentially, by differing magnitudes. It's not just a matter of binary "yes" or "no." What does Pareto do here? Well, first note that in this case the wins can in principle be aggregated and reallocated *pro rata*.[40] And, indeed, if they are windfalls, to which no one can claim responsible title, most of us likely will think that they *should* be reallocated if feasible. (Why should *I* reap the windfall and not *you*, if indeed it's a windfall – i.e., if I have done no more than you to bring it into the world?) Various normative principles, moreover, will prescribe various possible spreads.[41] That's to say they will adjudicate potentially competing claims on the surplus differently.

Now what does Pareto say in this case? Pareto says: Don't. That's why I'm calling it "negative" in this case. Pareto says leave the gains where they happen to lie, so long as no one has "lost" anything – "loss" of course measured by reference to a normatively arbitrary baseline, the *status quo ante*. But this just means, "don't adjudicate." And that in turn means, "don't normatively judge or prescribe; abstain from all judging and prescribing." So "Pareto prescription" in this case, the negative one, is not so much otiose as it is incoherent. It "prescribes" non-prescription.[42]

It is easy to see why Pareto might enjoy some intuitive appeal in the first, affirmative case: It "recommends" something that we'd never *not* do. But it also, we see now, is in consequence sterile in that case, not really prescriptive of anything. It doesn't add value. We miss its redundancy only by yet again conflating the "is" of (uncontested, because *stipulatively* non-*unfair*) preference with the "ought" of a normative judgment or prescription, just as do strict welfarism and Pareto indifference.

What I have been calling "negative" Pareto, on the other hand, would seem to enjoy little if any intuitive appeal, at least once we have peeled it away from the affirmative Pareto behind which it hunkers and seen it for what it actually is – "prescriptive" of no more than non-prescription. What ever intuitive appeal negative Pareto *might* exert once severed from affirmative Pareto, I suspect, is rooted in an implicit expectation that differential windfall gains "balance out" over time, hence

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[40] Certainly that is so if the Normal Good Supposition is maintained, as of course a version of it is in Kaplow & Shavell (2001) and Suzumura (2001).

[41] I am alluding here most directly to "opportunity-egalitarian" intuitions per Hockett (2007c). But a utilitarian likewise might well recommend reallocation, if doing so will raise the utility aggregate. (What really distinguishes the utilitarian is her readiness to reallocate even *non*-windfalls, so long as doing so maximizes the utility aggregate (which itself rides on that windfall which is the distribution of utility functions).)

[42] It is quite often the case, in logic, that the negation of a trivial proposition is an inconsistent proposition. (The negation of a tautology is a contradiction.) Such is effectively what we encounter, pragmatically speaking, in the case of what I have been calling Pareto's "affirmative" and "negative" edges.

ultimately really are *shared*, and hence *fair* gains. You might win more today, but I'll win more tomorrow, and "it all evens out in the end," so just let the aggregate (or pseudo-aggregate) grow. (See Hockett (2007c) for more on this.[43])

If I am correct about this, then *negative* Pareto, insofar as it's intuitively accepted, is parasitic on assumed fairness ("longrun fairness") just as *affirmative* Pareto was just seen to be per the unanimity assumption, and thus once again normatively inert or *redundant* as we just saw affirmative Pareto to be. For in this case Pareto means no more than: Let each individual see her satisfactions maximized, as consistent with no one's gaining unfairly relative to others over time. And in this case just as with affirmative Pareto, we accordingly needn't bother with Pareto at all. We can look simply to whether the "all evens out" expectation actually is borne out as an empirical mater, and take measures to ensure that it is if it's not. That's to say we can work to ensure fairness. And then when we do, the "maximization" of normatively *cognizable* preference-satisfactions – i.e., *true* welfare per the discussion of strict welfarism and Pareto indifference just above – straightforwardly takes care of itself. I'll revisit this briefly below in connection with what I call the interformulability of maximization and equalization social welfare formulae.

In sum, then, weak and strong Pareto at best say "OK," in parasitically rubber stamp fashion, and otherwise say "No," in prescription-prohibitive fashion. This is what finds formal expression in the second proof. Pareto's real role is expressed in the fact that it exerts no effect save one: It disallows even so much as an infinitesimally – hence, what is yet worse, subjectively inappreciably – small increment of the material resource r to be traded off in the interest of any normative value what ever. That means including what ever (patterning) value would have to be appealed to in formulating or justifying the choice of an aggregation rule, such as must enter into the structure of any multivariate social welfare function. (And a social welfare function that would prescribe, recall, will be formulated deliberately *pursuant* to such a value.)

C. Strict Welfarism and Paretianism as Antigens

The joint upshot of these observations and the proofs they interpret, I think, ought to be clear: In would-be prescriptive social welfare functions, strict welfarism and Paretianism can be no more than the functional equivalent of antigens. Each is a strain of the same basic stock. They are at best benign (otiose), at worst malignant (incoherent or prescription-prohibitive), and in no case useful transgenic transplants from positive to normative economics. They have managed to endure in obscurity by dint in part of the numbing effects of what amount to the functional equivalent of immunosuppressives: The subtle conceptual-cum-terminological, is/ought conflations we have just analyzed, and the standard model's codifying hence reinforcing them as discussed above.

Those conflations have perhaps drawn yet more reinforcement from another conflation, possibly rooted in or reinforced by psychological habit. For in a sense it's quite "natural," one supposes, to run positive preferring and normative prescribing

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[43] Kaldor and Hicks, incidentally, seem expressly to have relied upon some such expectation in advocating the formulation of policy pursuant to the "compensation," or "potential Pareto" criterion. E.g., Hicks (1940), Kaldor (1939). See generally Hockett (2007c).

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together: An individual, after all (particularly an unprincipled one) quite *often* commands what he demands, and demands what he commands.[44] And if one implicitly thinks of "society" as no more than a lumping together of persons into one great big person (rather than a structure of cooperation among distinct, separate persons), it is perhaps tempting to think of a social command as itself simply a lumping together of individual demands (rather than an adjudication of always potentially conflicting demands).

4.4 *Discipline-Sociological Etiology*

The combined error that is strict welfarism and Paretianism might have received impetus from more than the subtlety of its conceptual-cum-terminological conflation and that conflation's codification in a model possessed of no variables for the value that is normative investigation and judgment itself. There appear to be "sociological" factors internal to the discipline of economics that also have played a role. This is a long and contestable story that it would be out of place to repeat or discuss at length in the present context. But here are what I suspect would be the highlights of an adequate narrative:

First, we all know the story of welfare economics' long struggle to break free of its origins in ethics and attain to the rigors thought characteristic of the positive natural sciences, where description has long since supplanted prescription.[45] But in view of the significance of its results as a "human science" (and indeed a "moral science," as the old Cambridge Tripos had it) for the lives of the citizenry, it could never have severed the normative ties altogether. So it's endeavored to have things both ways here and there: sometimes overtly and sometimes covertly prescribing, but always endeavoring to do so "objectively," on an often cramped read of that term.[46]

How? Well, first by prescribing by reference "only" to exogenous preferences that the "analyst" will not "presume to judge." And relatedly second, by scrupulously

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[44] A remark of Pareto's (1906) (p. 318) seems apposite here: "In general, men are prone to give their private demands the form of general demands."

[45] See, e.g., de V. Graaf (1957), Little (1950), and Samuelson (1947) (p. 219), who is more sensible than many on this subject; and of course Robbins (1932), who is not. See also Grewal (2006) for thoughtful reassessment of Robbins and his milieu.

[46] Kysar (2006) makes many important points in this connection, in a work that shares a frame of reference both with the present point and with other points made in the course of the present argument. He observes, for example, that many present day advocates of cost benefit analysis fall into a mode of argumentation more puzzling even than that which I am here seeking to dispel: Rather than simply taking normativity to be imported automatically, as it were, by individual preferences, with no need of a separate premise or set of premises to the effect that (some or all) preferences ought to be satisfied, these advocates appear both to rely upon that importation *and* to *deny* that they are *making* normative, as putatively distinguished from "technical," claims at all. Given that the same advocates *advocate*, i.e., purport to prescribe, one is left scratching one's head over the straddle. More generally, Professor Kysar takes note of many instances of vitiating prescriber self-amnesia on the part of cost benefit analysts that appear to be straight-forward consequences of the standard Bergson-Samuelson model's lack of a variable for incumbency.

On the matter of "objectivity," the best account of this seldom carefully used word is still Frege's (1884), per which the term is synonymous with "intersubjectivity." Objectivity, we might say, is, rather like fairness itself, a thoroughly interpersonal concern.

avoiding putatively "subjective" or "inherently contestable" *distributive* questions,[47] so that "everyone wins" or at least "no one loses." And the desideratum of political consensus – or perhaps sometimes less innocently, of assent by the contemporaneously advantaged and thus influential – external to the discipline doubtless afforded additional impetus on this score.

But this is precisely what we see now to be impossible – not just politically but logically, analytically impossible: To prescribe at all, the social welfare function must give effect to decisive normative judgments as to who and/or what to count and how potentially competing claims are to be aggregated hence adjudicated. The "analyst" quite *immediately* judges, in effect, in the very act of *constructing* or *choosing* a social welfare function. And once she has done so, preferences at variance with this inherently adjudicative decision have already, ipso actu, been ruled out of court. They've been judged "merely preferences," *not* normatively or socially cognizable *welfare*. (They are "*thiefs'* preferences," so to speak, per section 4.3 above.)

Second, as suggested above, the earlier-mentioned psychological ease with which we slip into confounding individual preferring with prescribing lends itself to a counterpart slip: One slips into thinking of *social or ethical* prescription as mere *summed* preferring. As if society were none but a single preferrer-prescriber writ large. If my demands are my commands, the unreflective line of thinking here presumably runs, then "our" demands must be "society"'s commands. (It's not only utilitarians, it seems, who have fallen into this snare.)

But "society" of course prefers nothing. It is magical thinking to think otherwise, like thinking that biomass, or even "the universe," might hold preferences.[48] It is we, the individuals planning and pursuing our lives "in society," and purportedly of concern to the "welfarist" or "individualist," who prefer. And our preferences vary and sometimes conflict. Thus we appeal to principles, which are not merely preferences, in order to decide between competing preferences.

And so we ordain and establish institutions that *structure* society *pursuant* to those principles. These render society just and sustainable, which redounds to the welfare of each of us, by affording means of adjudicating conflicting claims to preference-satisfaction objectively, i.e. *inter*-subjectively, impartially, fairly. That's what it means, more or less, to speak of "a government of laws, not men." To say "not men" is to say "not merely preferences." To say "laws" is to say "principles" – the same things that determine our social welfare functions. Hence the same things that can override preferences and enable social welfare functions to prescribe.

Finally third, the conflations that I've been attempting to diagnose go conveniently obscured by our habit of formulating social choice rules as maximization

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[47] It's never been clear just what this phrase means. Perhaps it has something to do with the once fashionable, now clearly outmoded positivist epistemology-grounded skepticism about "interpersonal comparisons of utility," per Robbins (1932) and others. (See again Grewal (2006) in this connection.) But for reasons that I'll touch on briefly below and which refer back to the observations made in the preceding paragraphs, even setting aside the obsolescence of positivist philosophy of science, it is clear that from both an operational and the most plausible normative point of view that distributive judgments require nothing in the way of "interpersonal utility comparisons" in any event. See note 52 below.

[48] Or even, per 3.1 above, that randomly generated mappings from X onto $\mathbb{R}$ might "automatically" be *social welfare* functions, as distinguished from allocation-descriptions. As if functions were, so to speak, self-interpreting.

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formulae. This, one supposes, is itself at least partly, if not quite wholly, a legacy of the earlier-mentioned factors themselves. It's also a legacy that tends to perpetuate them. Here is what seems to have happened:

First, insofar as we think of prescription as mere preference and preference as something which yields, when satisfied, an ordinally or cardinally variable scalar magnitude like "welfare" or "satisfaction" or "happiness," we quite naturally think of maximization formulae as appropriate forms for prescriptions to take. (If each of us experiences fluidic- or gaseous-like satisfaction and that's good, why *wouldn't* we "maximize" it?)

Second, insofar as we think of social preferring merely as summed individual preferring in turn, we think readily of *social* choice as a matter of *aggregate* satisfaction-maximizing.

And finally third, insofar as economics has sought typically to emulate the contemporaneously most successful natural sciences ever since first separating from ethics, it's been only natural to adapt the particular mathematical methods prevailing in those sciences. (See Spiegler (2005) for more on this.) The latter were, in the first phase of "Cambridge school," "old" welfare economics, those of analysis as practiced in classical thermodynamics and applied engineering, whose questions of course were constrained maximization questions.[49] And they were, in the second phase which saw the emergence of the "new" welfare economics, again those of a kind of engineering but now "systems" engineering. We thus moved to Leontieff input/output analysis and Dantizigian – hence Air Force and Rand Corporation – linear programming, which are again constrained maximization methods conceived with a view to the aims of a single-willed organization.[50]

Social, as distinguished from individual, preference functions, when cast as maximization formulae, keep our attentions fixed steadily upon readily fetishized aggregates as salient outputs, rather than upon individual distributive shares as our salient inputs. They continue to do so by contouring (or in the new idiom, "framing") our thinking, even long after we might have forgotten why formulae of this form were ever adopted in the first place. Once that has happened, it's all too easy to lose sight of the fact that the SWF's aggregation rule is effectively a distribution rule governing distinct individuals' potentially conflicting preferences, hence that adjudicating has to be done, hence that prescriptive ("ought") principles, not merely ("is") preferences, must be appealed to. And those, again, are principles that inevitably open the prospect of there being not only "winners," but "losers" as well, in respect of any particular nontrivial decision: That is, again, individuals who might not be able in a world of shared scarcity to have *all* that they want without wronging others, i.e., effectively thieving from them, thereby treating them unfairly.

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[49] It might even be causally significant here that Pareto himself, like his Lausanne school predecessor Walras, was originally an engineer. And Marshall, their Cambridge school counterpart, was of similar pedagogical background.

[50] Here of course put on the map by the man said by some to be Pareto's latterday successor, and of course one founding figure of the "new" welfare economics, Paul Samuelson. See, for example, the canonical Samuelson (1947) (in which the methods of classical thermodynamics also figure prominently) and Dorfman, Samuelson and Solow (1958) (in which game theory also is duly discussed).

It might helpful here finally to remark on the relation between Sen's classic (1970) impossibility result and the results we have derived here. On the one hand, I think that Sen's result is that which has come closest in the past to those I've derived here. On the other hand, I think that its fixing upon a "sphere of liberal autonomy" obscured what was actually at stake. The critical, and more generally applicable point, it seems to me, is that individual preference-satisfactions alone are not enough to prescribe at all, because the question for social decision is always at least in potential the *distribution* of preference-satisfactions, which preferences alone do not suffice to adjudicate. The question of the proper sphere of liberal autonomy – i.e., the ethically cognizable divide between internality and externality – is simply a proper part of this larger question of rightful distributive shares. And it is this larger question that both strict preference-regard and Pareto have been – both from their inceptions and from the earliest days of "the new welfare economics" – employed in effect simply to dodge.

This deeper "issue" toward which I believe Sen was struggling was further obscured by what appears to me to have been a needless distraction raised by his misunderstanding, at the time, of the functional logic of rights: the way that rights "work" – viz., as rights to choose, including to choose not to use (to invoke), so to speak. (See, of course, Barry (1986), Gibbard (1974), and Hardin (1988) among others on this score. See also Chang, *op. cit.*, who well covers all sides of the discussion.) I suspect that Sen placed the weight of his argument on rights as thus misunderstood at least in part because he knew that there was *something* problematic about Pareto which had *something* to do with its inimicality to the normative judgment or prescription to which rights-concerned liberalism (then being rediscovered by political philosophers after a long period of utilitarian vogue) attempts to give voice, but hadn't yet drawn a bead on just what that something was.

And no surprise here. For we cannot quite see it till we widen the angle a bit (rather than narrowing it as Sen did in immediately subsequent efforts, like (1976)), to see (a) that liberalism is ultimately a theory of justice – distributive fairness – more plenarily understood, (b) that justice in turn is about distribution thus plenarily understood, and then (c) that all *prescription* prescribes *distribution* (of variegated benefits and burdens) thus understood – precisely what strict preference-regard ("welfarism") leaves no space for (since preferences do not suffice to adjudicate between preferences) and what Pareto is employed to avoid grappling with.

What, then, about what Kaplow and Shavell say in re Sen's result? They claim that their result "generalizes" Sen's. (Kaplow & Shavell (2000): 192) Is that correct? Well, in a way, yes. But they have misapprehended the significance of both Sen's result and their own in this sense: Liberalism is a normative view – a cluster of bona fide normative principles on the basis of which one can judge and prescribe. This cluster includes principles of autonomy – "liberty," from whence of course liberalism's name derives – and usually distributive justice as well – from which egalitarian aggregation rules in putatively "welfarist" SWFs are borrowed. And Sen shows that strict Paretianism is not compatible with this normative position. Kaplow and Shavell in turn show in effect, without being clear about the fact, that strict Paretianism is not compatible with *any* bona fide normative position. That is the sense in which their result – and

Suzumura's and others' cognate results reached concurrently – generalizes Sen's. Pareto is anti-liberal, but it is not *merely* anti-liberal; is anti-*normative*.

In a way, again, none of this should be surprising. All normative positions involve distributions of benefits and burdens of various sorts, and prescribe principles addressed to the question of how to distribute them. It would be a most fortunate – and incalculably unlikely – accident indeed were things accidentally to be distributed already in conformity to any normative principle speaking to proper distribution. And Pareto says, in effect, do not worry about that. Just bless the way things already are, rather than seeking after some distributive norm that might upset the apple cart. "What ever is, is right," as the poet once said. (Pope (1632).) That is to make, not a virtue of necessity exactly, but an "ought" of an "is." And that is, indeed, a truly degenerate case of prescription.[51]

5. CONCLUDING THOUGHTS

Where does this leave us? I think that it means, among other things, that welfare economists, social choice theorists and policy analysts who actually judge or prescribe are effectively justice theorists. The only real question in future, I think, will be whether they're good, careful justice theorists or less deliberate, default justice theorists.

It is difficult not to anticipate that the careful ones, moreover, for reasons of perspicuity and direct operational applicability, will either dispense with or supplement maximization formulae in formulating satisfactory social optimization programs. (They'll doubtless retain maximization formulae in modeling *individuals'* optimization decisions.) For it happens that any multivariate maximization formula can be translated into an equivalent equalization formula. (See Hockett (2006c).) And working with formula of the latter sort directs attention both (a) to that which must be attended to in correctly adjudicating between claims, and (b) to what actually can be *done*, via implementary mechanism, to ensure that the *ethically cognizable* social welfare aggregate per our discussion above ends up being the aggregate that *is* indeed "maximized."[52] This

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[51] A good workaday definition of "prescription" might be "the instruction to do just the *opposite* of that" – that is, to make an "is" of an "ought."

[52] Here's the idea in a nutshell (see Hockett (2007c) for fuller account): The ethical considerations that go into formulating an aggregation rule take individuals to be equals in one or another respect adjudged to be ethically relevant. The classical utilitarian rule, for example, treats them as equals in respect of their utility functions and thus sums over the latter in unweighted form. (Because I can't see the ethical relevance of utility functions for which persons are not responsible, utilitarianism seems to me fetishist for precisely this reason; it's like summing over randomly distributed endorphin counts, or even over foreheads.) Now any such summand implies a complement equalisand embracing all attributes of individuals considered *not* to be ethically relevant. An opportunity-egalitarian distribution rule, for example, deems factors beyond an individual's control to be ethically arbitrary, hence judges that such factors' effects should be equalized across individuals. Call the latter equalisand "ethically exogenous opportunity and risk," or if you prefer, simply "opportunity" for short. (The longer form's better because we "make" some of "our own" opportunities and risks; they're not all of them accidents, some are what we can call "ethically endogenous.") Now index such opportunity individual by individual and symbolize it thus: "O_i" (Please think of this, not as spelling out a familiar East End London ejaculation, but as standing for person i's opportunity.) Now call that which the individual produces out of such opportunity – something which I think our commitments to autonomy commit us to allowing her to maximize untrammeled – "ethically cognizable welfare," and symbolize it thus: "W_{Ei}." (Please think of this as

of course leaves all the room in the world for carefully parsed formal treatment, including statistical-empirical treatment.[53] Indeed it demands it.[54] But it leaves less room for summative formulae, and no room at all for strict welfarism or Paretianism.

It is now long forgotten that Pareto the man was the doubtful beneficiary of a Fascist state funeral. Indeed this was presided over by none other than Il Duce, Mussolini himself. One supposes that a more fitting tribute, perhaps more in keeping with the man's own intentions, will on this, the *Manual*'s recent centenary, be to lay all our ersatz-prescriptive pure "welfarism" and Paretianism at long last to rest.

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standing for person *i*'s ethically (*E*) cognizable welfare (*W*).) Then an opportunity-egalitarian social welfare function can be formulated either thus: $\forall i$: Max $\sum W_{Ei}$, or equivalently and operationally more helpfully, $\forall i$: Eq O_i. The appropriately characterized – i.e., ethically contoured or "weighted" – summand in the first formula corresponds as full complement to the equalisand of the second formula. And because the most direct way, operationally speaking, to ensure that the first formula is satisfied is by acting on the second formula (maximization of the first will "take care of itself," i.e. will follow directly, upon our satisfying the second), formulae of the second type will prove ultimately more helpful to those who implement policy. Our attachment to maximization formulae even in the social and not just the individual context, I think, is simply a relic. It is a relic of the conflations I've been at pains here to disentangle, a relic partly also of the mathematical methods that happened to be prevalent in the most admired natural sciences during a formative period of welfare economics, and a relic that's now easily and best-advisedly dispensed with.

[53] See, for example, the normatively sensitive and formally rigorous work of Roemer (1993, 1998) along these lines. Kolm (1971) and Sen (1992, 1997, etc.) are of course no slouches either. Nor are the countless economists of fair allocation – Baumol, Cappellen, Daniel, Fleurbaey, Foley, Moulin, Pazner, Schmeidler, Thomson, Tungodden, Varian, etc. whose work seems to have gone entirely unnoticed in Kaplow & Shavell (1999, 2000, 2001, 2002, 2004).

[54] It demands it, for example, in parsing the boundary between ethically exogenous and ethically endogenous opportunity per note 52.

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