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Comment on the Papers by J. M. Buchanan and by A. de Jasay and H. Kliemt

Abstract: We distinguish between the paradigm of game theory in which individuals act directly and that of social choice in which an impartial observer acts on the basis of social preferences, which in turn are derived from individual preferences. Much of the critique of Sen brought forward by Buchanan and de Jasay and Kliemt rests on a confusion of these two paradigms.

The belated publication of the by now 'adult age' (20 years old) paper by Professor Buchanan and the new contribution by two outstanding philosophers, Professors de Jasay and Kliemt (henceforth: JK) can only be welcomed because they provide an opportunity to address some misunderstandings that have prevailed throughout the debate of Sen's impossibility result over the last quarter century. Nevertheless, I think that not all of the authors' conclusions are warranted. In this note, I shall take up the following of his points in turn:

1. the embedding of libertarian values in the concept of collective decision-making,
2. the meaning of 'choice' and 'preference' in Sen's terminology,
3. the question of 'choosing' among social states or determining aspects of the social state or 'issues',
4. the formal equivalence between the Pareto-Libertarian paradox and the potential inefficiency of Nash equilibria,
5. the original assignment of decision rights (or, in the terminology preferred by de Jasay and Kliemt, 'liberties') and the existence of mutual benefits from trading them.

Ad 1: Following Arrow (1951), Sen (1970) takes a welfarist position of normative economics. In his view, a basic tool of welfare economics is the systematic evaluation of all conceivable social states using the concept of an ordinalist-individualistic collective preference relation (i.e. one which is derived from the set of individual preference orderings of the members of society). He shows that imposing certain conditions on the preference aggrega-

tion procedure ('collective choice rule') can produce cyclical social preferences, which inhibit the 'impartial observer' from finding a 'best' social state. Unlike in Arrow's formally similar impossibility theorem, minimal libertarian values are one of the several conditions mentioned.

This very notion can be—and has been forcefully—disputed by proponents of liberal values, most notably by Nozick (1974, 166) and by Buchanan himself.¹ They argue that the exercise of individual decision rights, which are based upon liberal values, delimits the realm of 'social' choice. So inherently social welfare criteria such as the Pareto principle could be applied only to the set of states remaining after the rights have been exercised. So there could never be a conflict between libertarian values and the Pareto principle.²

Buchanan does not make this point in his present contribution, and JK explicitly deny it (139) so in the following I shall not pursue this line of reasoning any further but will argue within the paradigm of 'social evaluation' as proposed by Sen. Moreover I shall also follow Buchanan (and Sen) when it comes to interpreting the resulting social evaluation as a basis for 'social choice', i.e. for deciding which social state will be realized. The implication is that

- if there is at least one 'best element' in the set of feasible social states, then one of these is realized,
- if this is not the case, then social choice theory is silent on what should be done.

Ad 2: This is one of the central points of critique of Sen in both papers and at the same time the authors' most severe misunderstanding of Sen's terminology, as is clear from their statements that "not more than one person could ever be assigned so much as a single choice over alternatives Hence, the assignment of decisiveness to a single person necessarily precludes a similar assignment to any other person in the society" (Buchanan 1996, 119), "minimal liberalism in Sen's sense—that is, the capacity to choose *one state of at least one pair of social states* . . ." (JK, 130) and "... any of the individuals can choose a social state from a pair of social states only if she is . . . in the position of a dictator entitled to determine all dimensions of the emerging state of the world" (JK, 133). These judgements are mistaken for two reasons. First, the word 'choice' was never used by Sen in the sense implied by all three authors, namely 'determining the alternative to be realized'. Second, in contrast to what Buchanan seems to have in mind, the technical term 'decisiveness' does not refer to a so-defined concept of choice either, but

¹ This was the essence of his speech delivered at the University of Basel on April 17, 1994, honoring the 65th birthday of Peter Bernholz.

² A possible counter-argument would be that even minimal human rights do not exist per se but must be produced (in the sense that their exercise must be protected) by society (see e.g. Kliemt 1993) so that any a priori distinction between the 'private sphere' and the 'social sphere' is arbitrary.

is used by Sen precisely in the way quoted by Buchanan in the preceding paragraph, viz. "if this individual prefers x to y , then society should prefer x to y ..."

Given that the eventual choice (by the impartial observer) is made from the set of 'best' social states remaining after individual rights have been exercised and other (e.g. Paretian) considerations applied, all that an individual endowed with decisiveness over some pair of states (x, y) can effectively do is to force his preference ordering (assume it is xPy) on society and thereby *prevent* one of the states (here: y) from being a 'best' state. Thus it all amounts to the *right to veto one* (of two specified) states. Hence it is clear that, contrary to Buchanan's claim, a similar veto can be given to almost as many people as there are feasible social states.

Ad 3: This is a point which has been often misunderstood by critics of Sen. Clearly, if there are m issues with technological separability between them in the sense of Seidl (1975), the set of feasible social states can be equivalently described as the Cartesian product of the m sets of alternative solutions to each issue, as is demonstrated by Buchanan in his 2x2-examples of Figures 1 and 2. Any sensible notion of individual decision rights then amounts to the assignment of issues to persons in the sense that the particular person is entitled to choose the solution to his or her issue (Bernholz 1974, Gaertner/Pattanaik/Suzumura 1992).³

Of course, this is not at all a possibility to get around the paradox discovered by Sen because assigning an issue gives a person more power over the 'social rank order of states' or the 'social choice' than simply assigning him a pair of states. More specifically, if there are 100 million male adults in a society and each one of them has the right to decide whether he should be clean-shaven or bearded, then—even holding all other features of the real world constant—there are $2^{100.000.000}$ social states of which any single man has the right to veto one-half, i.e. $2^{99.999.999}$ states (the ones in which he is clean-shaven) simply by deciding to go bearded.

Since Sen obviously wanted to describe a minimal set of conditions leading to an *impossibility* result, he can not be blamed for stripping the content of individual rights to its very bones and postulating the right to determine society's preferences over *just one* pair of states. What is slightly unfortunate about his 'beard' example reproduced by Buchanan (119–20) is that the pairs of social states assigned to persons 1 and 2 are mutually exclusive. Intuitively it would make more sense if they overlapped in one particular state, as do the pairs (x, y) and (x, z). Here each man would be given the right to grow a beard given that the other remained clean-shaven, and the possible pairs of vetos

³ Of course, this right may only be exercised unconditionally, i.e. the decision must not be made dependent upon the way other persons exercise their rights because such a conditional choice would give rise to Gibbard's (1974) paradox.

are $(1:x, 2:z)$, $(1:y, 2:x)$, $(1:y, 2:z)$, $(\text{both}:x)$. There is nothing inconsistent in allowing either of these pairs of vetos to be exercised.

Ad 4: Here Buchanan claims that “the alleged conflict with the Pareto principle [is] nothing more than the familiar inefficiency of independent adjustment or Nash equilibria under conditions of Pareto-relevant externalities” (119), which can be put even shorter: it is nothing more than a prisoner’s dilemma situation. This claim is fully justified. Technically, there is no difference, and this point is brought about clearly by the concept of game-form liberalism introduced by Bernholz (1974) and used by JK. But this does not at all mean that Sen’s original (1970) paper has been without merit. Quite to the contrary, he has discovered a new and deeply troubling application for the well-known prisoner’s dilemma paradigm in political philosophy and he has opened up the stage for a broad and fruitful discussion of how to harmonize the conflicting values of liberty and efficiency. For excellent surveys of this strand of literature see Wriglesworth (1985) and more recently Gaertner/Pattanaik/Suzumura (1992).

Ad 5: Finally, both Buchanan (124) and JK (140–1) seem to believe that the inefficiency of Nash equilibria in the game of rights-exercising would vanish if it was taken into account that liberties always include the freedom to contract, because if the preferences of each individual with respect to the ‘personal matter’ of the other are strong enough, such trades will indeed occur.

Now, this idea has been explored in the literature⁴ and it turned out that despite its intuitive appeal it does *not* solve the problem posed by Sen: In fact, the game defined by exercising the rights to trade can bring about a Pareto optimal equilibrium solution only in the special case of two persons, while this result does not carry over to the general case of more than two persons, as was demonstrated already by Breyer/Gardner (1980). Of course you are unable to see this if you only look at two-person examples.⁵

This point, incidentally, is related to the assertion by Bernholz (1986) that to any profile of individual preferences there exists an allocation of rights so that the ensuing non-cooperative game of exercising these rights will have a Pareto-optimal equilibrium. As has been argued by Breyer (1990), this knowledge does not help much because the proposed procedure would just push up the conflict of interest to the level of rights allocation.

⁴ This literature appeared after Buchanan’s paper was originally written.

⁵ The claim that trading rights should solve the paradox was reiterated by Harel/Nitzan 1987, and subsequently refuted independently by Breyer 1990, and Suzumura 1991.

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