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Contractarian Approaches to Intergenerational Justice

by

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Contractarian Approaches to Intergenerational Justice

Hans-Peter Weikard

Abstract: In modern political philosophy social contract theory is the most prominent approach to individual rights and fair institutions. According to social contract theory the system of rights in a society ought to be justified by reconstructing its basic features as a contract between the mutually unconcerned members of society. This paper explores whether social contract theory can successfully be applied to justify rights of future generations. Three competing views are analysed: Rawls's theory of justice, Hobbes's radical liberalism and Gauthier's bargaining framework based on the Lockean proviso.

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1 Types of social contract theory

From a utilitarian perspective there is a straightforward way to determine our moral obligations to future generations¹. We have to take into account the expected happiness of future persons and other sentient individuals and sum up across all individuals. The interpersonal adding-up is a well known and so far unsolved problem, but it is no longer regarded as meaningless.² Assuming interpersonal comparisons can be done only routine problems are left for the welfare economist. These problems have been addressed in the literature. Early attempts to give a precise statement of the utilitarian problem are Ramsey's (1928) "A Mathematical Theory of Saving" and, of course, Hotelling's (1931) "The Economics of Exhaustible Resources". The aim of much of the resource economics literature that followed these pioneering works has been to determine optimal paths of resource use, where "optimal" means the utilitarian best.

From the perspective of social contract theory obligations to future generations can not be defined so easily. In this paper I want to explore the contractarian approach to the rights of future generations. This issue, although it has been dealt with in the literature, is not at the centre of modern social contract theory. Scholars like Rawls (1971) or more recently Gauthier (1986) do consider future generations, but the rights of future generations are not integrated

¹ Throughout the paper "future generations" is a short name for "all the individuals who will be living in the future".

² Cf. e.g. Elster and Roemer (1991).

into their theories in a coherent way. At least this is what I shall try to show. The largest part of the paper will be a critique of the contractarian approach to intergenerational justice. Contractarians face a dilemma. A theory based on weak assumptions does not deliver what we expect from a theory of justice. Basic moral intuitions are violated. Stronger assumptions, however, seem to undermine the coherence of the contractarian approach. In the following it will become clear that it is difficult to strike a balance between too weak and too strong assumptions.

From a contractarian point of view all the rules in a society and therefore all obligations are components of a social contract. It is assumed that the social contract is valid if and only if it is based on mutual consent. The social contract must satisfy unanimity. This is a most general description of contractarianism. There are different types and versions which introduce further conditions under which individuals negotiate the contract. Two conditions are crucial. Firstly, the individuals have to negotiate under certain informational constraints. Different types of contractarianism introduce different informational conditions. Secondly, it is of utmost importance who is at the bargaining table when the contract is agreed upon. The latter point seems to be trivial. Often it is not even discussed. Indeed, for many problems of distributive justice it can legitimately be assumed that a society consists of rational individuals and that all of them take part in the negotiations. However there are other situations where this assumption is too simple. Consider situations where children are involved, or animals, or future generations. Those lack the capacity to make rational decisions. Should they, as a result of this, be excluded from the bargaining process and, as a result of this, be without any rights?

With regard to this problem two different views are dominant. One can either argue that the negotiating situation should be fair in the sense that every individual who is affected by the resulting contract should be at the bargaining table and assumed to be endowed with the capacity to make rational decisions. Once it is determined who is admitted to the bargaining table the remaining important question is how bargaining power is distributed across individuals. Certainly no one will be worse off in the social contract situation than in anarchy, since the contract is agreed upon unanimously. But will everyone get fair access to natural resources and the fruits of social cooperation?

Looking at these problems from another angle one can argue that fairness should not be built in the conditions of the social contract. What is relevant for the design of the social contract is power, not fairness. Justice is defined by the rules determined in the contract. From this point of view those who are not rational or too weak (for they are too young or not yet born etc.) do not participate in the bargain. They have to live on what others will leave for them. This point of view I shall call radical liberalism. It is a powerful theory because it is based on very weak assumptions. It also has the advantage to deliver not only a justification of the social contract

but, by construction of the justification, it is also clear that the agreed rules are implementable. However, it lacks some intuitive ideas of fairness.

After these more general remarks, I now turn to three different versions of social contract theory in somewhat greater detail.

Firstly, I look at Rawls's "Theory of Justice" which illustrates the problem how to determine the informational conditions of the initial bargaining situation. Secondly, I shall turn to radical liberalism. The consequences of this view seem to be unacceptable. Thus it is, thirdly, worth while to consider a less radical liberal position which in recent years has been explored by David Gauthier. Gauthier has based his ideas on John Locke's theory of property. While some features of Gauthier's argument have to be revised, the idea to develop a theory of justice between generations as a coherent part of a theory of property seems promising.

2 Rawls's theory of intergenerational justice

It is plausible to start with Rawls. In a paragraph entitled "The Problem of Justice between Generations" Rawls has introduced the problem to the modern philosophical debate.³ Rawls's "just savings principle" has been widely discussed in economics.⁴ Accordingly my remarks can be brief. Rawls's methodological idea is to derive principles of justice from an original position in which individuals decide upon the basic rules of society. The decision, which rules to choose, is essentially determined by the available information. Individuals are rational and mutually unconcerned. (Rawls 1971, §25) The Rawlsian social contract is negotiated behind a veil of ignorance. General features of society are known and can be taken into account, but no personal information is available. Nobody knows her or his talents, particular needs, preferences and social position. (§24) Since no personal information is available individuals are in the same initial position. Negotiations are not really essential, since all rational individuals will come up with the same decision. The contract is a choice of a representative person rather than a result of negotiations.

This idea can also be applied to the problem of intergenerational justice. Here the information of a person's location in time is crucial. Rawls (1971, 140) assumes that individuals are contemporaries, and they know that they are. On the other hand no information about the absolute position in time is available. Consequently, nothing is known about the stage of economic development of society. No one knows whether she belongs to an earlier or a later generation. But there is a general knowledge about the possibility of saving and productive investment. It is known that savings contribute to the capital stock, capital enhances

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³ Rawls (1971) § 44. Laslett and Fishkin (1992) give a brief account how ideas on intergenerational justice entered the modern philosophical debate.

⁴ Cf. e. g. Arrow (1973), Grout (1977), Mueller (1974) and Solow (1974).

productivity and the living conditions of later generations will thereby be improved. Now consider that people in the original position are selfish or mutually unconcerned. Under this assumption they will have no reason to save for the sake of future generations. They will also have no reason to adopt any rules for conservation or to limit their resource use. This would follow from Rawls's construction of the original position as an assembly of self-interested contemporaries. To avoid this consequence Rawls adopts altruistic motives for the derivation of the just savings principle. Parents are concerned with the well-being of their children which, in turn, are concerned with the well-being of their children, and so on (Rawls 1971, 140 and 292). The assumption of altruism may be true or not. It is, however, problematic to base justice on altruism. The concept of justice should not depend on empirical facts about benevolent behaviour. Rawls develops the principles of justice from the assumption of mutual unconcern, the just savings principle being the only exception.⁵ The just savings principle is based on the factual claim that people do have altruistic motives with regard to their offspring. In cases in which this proves false, there would be no obligation to saving or conservation. The Rawlsian approach to intergenerational justice is therefore methodological questionable and may lead to problematic consequences depending on facts of parental benevolence.

The aim of the veil of ignorance is to "nullify the effects of specific contingencies which put men at odds and tempt them to exploit social and natural circumstances to their own advantage" (Rawls 1971, 136) To use Rawls's phrase, contemporaries are tempted to adopt rules that allow for the exploitation of future generations. Hence, an obvious and coherent way to deal with this problem is to adopt a slightly different characterisation of the knowledge available in the original position. In particular, people should not know to which generation they belong and they should not know that they are contemporaries. Under this condition (if we accept Rawls's arguments concerning the decision making in the original position) it follows that the difference principle should also be applied to the problem of justice between generations. Therefore savings and resource conservation should be arranged such that they are to the advantage of the worst-off generation. Consequently no generation has the obligation to save for the purpose that later generations will be better off than themselves. Economic stagnation is the likely result, which is, of course, what Rawls wanted to avoid. On the other hand, the difference principle implies that no generation is entitled to act such that later generations are worse off than themselves. Thus a modified and consequent Rawlsianism would justify an obligation to resource conservation and economic sustainability.⁶

⁵ In his recent book Rawls (1993) retains the assumption that individuals in the original position are contemporaries. He adopts an essentially Kantian argument to justify a positive savings rate.

⁶ In a Rawlsian framework sustainability means sustainability of primary goods.

3 Hobbesian radical liberalism

In the Rawlsian framework the basic rules of society are agreed upon in an artificially created environment. Rawls's construction of the veil of ignorance has been criticised on grounds that the distinction between what is known and what is not known is somewhat arbitrary. The discussion of the just savings principle highlights this criticism; it needs further justification how the information is filtered through the veil of ignorance. Radical liberalism avoids this criticism. While the social contract is, of course, hypothetical, it should capture the basic features of real-life situations. Everything that can reasonably be assumed to be known will serve as the basis for decision making. In particular, all personal characteristics, talents, strength, particular needs and conditions for access to resources are known to the individuals and hence will determine the contract. Consequently, the contract will be in favour of the more talented, stronger and those with better access to resources. This consequence is mitigated by two conditions. The first could be called the Hobbesian proviso. Hobbes assumes that natural inequalities are limited. According to Hobbes (1651, chap. 13) even the weakest member of society is strong enough to kill the strongest. This assumption assigns everyone a minimal level of bargaining power. No one is completely powerless. The limited natural inequality also limits inequalities of the social contract.

A second argument is due to Brennan and Buchanan (1985). Inequalities of power cannot completely be exploited by the more powerful, but only to a limited extent. It would be unwise from the point of view of the stronger and more powerful to favour a contract leaving no rights for the weak. This is so because it is well possible that the powerful will become weak in the course of history. In the negotiations of the social contract they should take this risk into account. Hence, even if the stronger individuals dominate negotiations, some basic rights would be assigned to the weak as a kind of insurance the stronger people would want for themselves. There is a veil of uncertainty, as Brennan and Buchanan put it, that renders it impossible to fully exploit any initial advantage. Note that the Brennan-Buchanan argument presupposes the impossibility of renegotiation. The powerful will only adopt the insurance policy, which gives rights to the weak, if they can be sure that the contract will not be renegotiated in case they lose power.

Can these arguments be applied to the case of intergenerational justice? Are the conditions which limit the inequalities valid in the intergenerational case? I do not think so. For the Hobbesian proviso this is immediately clear. Those people who are born in, say, a hundred years time, face a complete lack of power to influence any decisions our generation makes now. There is nothing whatsoever that future generations can do to punish us for wasting the earth's resources. But neither can the Brennan-Buchanan argument be applied. A self interested decision maker can safely neglect the possibility that we die later than at 120 years of age. The veil of uncertainty is too thin to guarantee a fair share of the worlds resources for later generations. Neither the Hobbesian proviso nor the Brennan-Buchanan argument can

prevent the conclusion, that the social contract does not protect the rights of future generations.

There are two qualifications. We have to consider overlapping generations and we have to look at the possibility of renegotiation of the contract. Both qualifications are related to each other.

It would be too simple to assume that one generation dies and is replaced by the next at some point in time. Generations overlap. But, as I shall show, this link between generations is still too weak to justify significant rights of future generations from a radical liberalist point of view. The argument is as follows: Suppose each generation t lives for two periods t and t+1. In period 1 generation 1 acquires (almost) all the resources. The social contract agreed upon in period 1 defines the rules for resource use. In period 2 the second generation comes too late. There is nothing (or at least not enough) left for them. If renegotiations are impossible for whatever reason the story would end here. However, there is no reason why generation 2 should accept the contract determined by the earlier generation. Generation 2 did not partake in the negotiations and, more importantly, they did not agree. Society returns to Hobbesian anarchy if generation 2 does not accept the contract. To avoid costly fights about access to resources the contract is renegotiated. Property rights are distributed according to the bargaining power of the two generations.⁷ Let us suppose for the moment that bargaining power is equally distributed. This means that resource rights will be split equally. But note that equal property rights of the two generations are equal rights to consume the remaining resources. If we look at generation 1's optimal consumption path – under the usual conditions of decreasing marginal utility of consumption – we find that more than one half of the resources are consumed in period 1. The remaining smaller fraction is shared equally with the next generation in period 2, who in turn will have to share with generation 3 what is left of the resources at that time. The bargaining power of the following generation takes the role of a discount factor. The greater the bargaining power of the later generation the greater the incentives for earlier generation to consume in their first period. We are left with the paradoxical result that savings are maximal if the following generation has no bargaining power at all. However, in this case, all savings are for the use of the earlier generation, they will not become available to the next generation.

The conclusion that can be drawn from this simple model is that only very weak rights of future generations can be guaranteed by a Hobbesian intergenerational social contract. Radical liberalism does not meet our moral intuitions.

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⁷ This argument is spelled out in greater detail in Houba and Weikard (1995).

4 The Lockean Proviso and Gauthier's theory of intergenerational justice

Normative theories are, of course, constructed to guide our decisions. Certainly, intuition should not be our only advisor. On the other hand intuition is essential to test normative theories. If radical liberalism leads to results incompatible with basic moral intuitions we should look around for alternative theories of justification.

In the remainder of the paper I want to discuss a third version of liberalism. This version is due to John Locke (1690). Unlike Hobbes, Locke thinks that there are some natural rights every human possesses. Some rights are prior to the social contract. According to Locke (1690, sect. 6) these rights are the right to live, to use one's own body and a right to property. Locke's ideas were introduced into the modern political philosophy debate by Robert Nozick (1974). In "Anarchy, State, and Utopia" he develops a framework for a theory of property in the Lockean tradition. A theory of property is meant to clarify legitimate ownership. For the purpose of this paper the problem of legitimate ownership can be summarised in the following question: Is there anything that future generations legitimately own. If so, we are under an obligation to respect future generations' ownership rights.

Nozick's framework for a theory of property contains two elements: acquisition and transfer. Nozick (1974, 151) states:

- "1. A person who acquires a holding in accordance with the principle of justice in acquisition is entitled to that holding.
- 2. A person who acquires a holding in accordance with the principle of justice in transfer, from someone else entitled to the holding, is entitled to the holding"

And he adds:

"3. No one is entitled to a holding except by (repeated) applications of 1 and 2."

This framework is as simple as clear. However it is difficult to spell out the principles of justice in acquisition and transfer. Here I am particularly concerned with acquisition. How large a share of resources can we legitimately acquire? How much do we have to conserve for future generations?

Locke (1690, sect. 27) provides an answer. Private acquisition of unowned (or commonly owned) resources is justified "where there is enough, and as good left in common for others". This claim is endorsed by Nozick who calls it the Lockean proviso. The Lockean proviso brings an egalitarian element to liberalism, this is the most important difference to the Hobbes-Buchanan version of liberalism.

First I shall discuss a difficulty of interpretation (cf. Nozick 1974, 176). Legitimate appropriation is possible *if and only if there is left enough for others*. If a good is scarce the proviso seems to rule out legitimate holdings of property. Suppose there is a number of apples

which are unowned at an initial stage. Now people start picking the apples. When the first person takes an apple there are still left a lot. But eventually, if there are more persons than apples, one person takes the last one. The Lockean proviso is thereby violated. There is not left enough for others. The last acquisition is illegitimate. But then, who takes the next to last does not leave anything others can *legitimately* appropriate. The next to last acquisition is illegitimate. And so on, back to the first acquisition. This interpretation rules out legitimate property rights for scarce goods. This is a paradoxical result since property rights are institutions which are meant to deal with scarcity. If there were no scarce goods there would be hardly any need for property rights at all. To avoid this paradox Nozick adopts a mild interpretation of the Lockean proviso. The proviso ensures that nobody's situation is worsened by the acquisition. This point is forcefully argued for by von Mises:

"However, to retain exclusive property rights is in the interest of all classes of society. Even the poor who do not own anything are tremendously better off in our society than they would be in a society which is unable to produce even a small fraction of what our society produces."

We can draw the following conclusions. (a) Private property of an object must make everyone better off or at least no one worse off than leaving the object unowned or for common use and (b) someone who receives little or nothing in the process of private appropriation of a common resource must be compensated such that (a) is satisfied.

Locke (1690, sect. 31) states as a third condition, that nothing should be wasted. This condition is obsolete if people are rational and a complete set of perfect markets exists.

One interpretation of the Lockean proviso is therefore that we may acquire resources if we thereby do not worsen the situation of others including future generations. The resources we use must be put to productive use to create the means necessary to compensate future generations for depleted resources. The Lockean proviso requires a sustainable economy.

Finally, let me turn to Gauthier's (1986) analysis. In "Morals by Agreement" Gauthier argues that a weak version of the Lockean proviso can be defended from a radical liberalist perspective. His general approach is more in line with Hobbes's and Buchanan's than with Locke's or Nozick's. However, his conclusions are close to Nozick's. Like Nozick Gauthier adopts the interpretation of the Lockean proviso that no one's situation should be worsened by anyone's acquisition of property rights. However, the proviso does not apply unconditionally. It applies if and only if there is a particular type of interaction between the members of society.

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⁸ Mises (1927, 27); my translation.

⁹ For reasons spelled out in Weikard (1994) Gauthier's justification of the Lockean proviso fails. But his attempt to spell out the implications of the Lockean proviso is interesting in itself.

This is best explained by way of example: (Gauthier 1986, 211ff) Assume that two persons live on the banks of a river. Call the two *upstream* (she) and *downstream* (he). Both live on the fish they can catch. According to Gauthier the Lockean proviso prohibits to take the other person's fish. But there is no obligation for anyone to protect the fish resources. Suppose *upstream*'s cheapest way of waste disposal is to dump the waste into the river and suppose this causes the diminishing of *downstream*'s fish, then the Lockean proviso is not violated until a particular kind of interaction prevails. The proviso only applies to cases where *upstream* betters her position through interaction with *downstream* and at the same time *downstream*'s position is worsened. In the example the waste disposal does not count as relevant interaction, because *upstream*'s position is unchanged whether or not *downstream* lives at that particular place. The Lockean proviso is meant to make sure that *downstream* is not exploited, but it does not guarantee a natural right to fish in an unpolluted river.

Things are different if both persons exchange fish for corn, say, on the market. *Upstream*'s waste disposal diminishes *downstream*'s catch and alters the terms of trade in favour of *upstream*. In this case – that is in a market society – the Lockean proviso applies. *Upstream* betters her situation by worsening *downstream*'s situation. Gauthier develops this example to clarify his interpretation of the proviso. At this stage, he does not look at the intergenerational case. However, conclusions about the meaning of the proviso with regard to future generations are straightforward. As the river transports the waste only in the direction from upstream to downstream, our production and consumption decisions affect the future, but not the other way around. Without interaction of the relevant type the Lockean proviso would not apply and there would be no obligations to future generations. But this argument, Gauthier says, proceeds too quickly. Generations overlap. For the following let us suppose that there are market type interactions between generations. It follows that the proviso applies. We can now take a closer look at what the Lockean proviso implies in the case of the appropriation of resources.

Consider two generations 1 and 2. The older generation, 1, is entitled to use a resource if this does make generation 2 worse off. Suppose the initial acquisition of resources by generation 1 alters the relative prices for resources and the labour supplied by generation 2. The more resources generation 1 owns the better their bargaining position in the exchange of resources and services. According to Gauthier's argument, the Lockean proviso applies and limits the legitimate acquisition of the resources by generation 1. If more than a legitimate share is appropriated by generation 1 a compensation has to be paid. How can the fair share or the compensation, respectively, be determined? This is a crucial question. It reveals a problem of Gauthier's theory of justified ownership. Gauthier argues that a violation of the Lockean proviso is a matter of displaced cost and consequently the compensation should be such that it covers this cost. This shifts the problem to the determination of displaced cost. The notion of displaced cost suggests that there is a natural status quo. However, this is not the case. Consider again the case of the persons living on the banks of a river. Gauthier (1986, 211f)

states explicitly the view that the notion of displaced cost is tied to interaction – there are no displaced cost without the relevant type of interaction. As noted above market exchange would be a relevant type of interaction. According to Gauthier, upstream is not entitled to choose the cheapest method of waste disposal. To dump the waste into the river counts as displaced cost provided there is market exchange. If upstream dumps her waste into the river, downstream would be entitled to a compensation which covers his increase in costs/efforts necessary to catch the same amount of fish. This interpretation of the proviso suggests that downstream is entitled to fish in unpolluted waters. However, this entitlement will also count as an initial acquisition. Therefore, its legitimacy depends upon whether or not it satisfies the Lockean proviso. In fact, downstream's right to fish in unpolluted waters places a cost on upstream. She can no longer choose her cheapest way of waste disposal. Hence, she should also be entitled to a compensation. For economists this is a familiar problem. Since Coase's famous (1960) paper it is well known that the concept of externality is symmetrical. Who causes and who suffers an externality is not a matter of fact but a matter of society's choice. It depends on the choice of rights assignment who bears the costs of an externality. Gauthier overlooks Coase's insight. Consequently his application of the Lockean proviso to the assignment of resource rights is not conclusive.

In another section Gauthier (1986, 302f) discusses the problem of a fair savings rate. Here he starts with the assumption that the initial bargaining position is the same for each generation. Thus the crucial question of the initial distribution of rights to access to resources is assumed to be settled. It is assumed to be settled in favour of an equal split solution. If the above criticism of Gauthier's theory of fair acquisition is correct, this assumption is question begging.

5 Conclusion

There are three brief conclusions and a suggestion.

- (1) Using Rawls's difference principle, one can justify a sustainable economy. However, no positive rate of saving can be justified. In the early 70ies this was a reason for Rawls to reject the difference principle for the case of intergenerational justice. Today we attach more importance to the loss of natural and environmental capital. Taking this into account makes sustainability sufficiently attractive.
- (2) Radical liberalism offers a gloomy perspective for future generations. Their bargaining position is just too bad.
- (3) It is an attractive idea to discuss the rights of future generations in the framework of a general theory of property rights. One such theory uses the Lockean proviso as a key condition. Gauthier discusses the proviso at length. However, his interpretation does not solve

the problem. His attempt to define legitimate property rights runs in a circle because the concept of displaced cost presupposes already the existence of property rights.

The contractarian approach to the rights of future generations faces a difficulty. The unequal distribution of power between generations will be reflected in an unfair contract unless inequalities are ruled out or mitigated through restrictions on the initial bargaining situation. Rawls imposes indirect restrictions by introducing informational constraints. In Lockean tradition the range of legitimate contracts is restricted directly to guarantee equal basic rights as a person's right to life and to his or her own body. The Lockean proviso can be interpreted in a similar fashion. It is important to acknowledge its egalitarian impact. Initial acquisition of formerly unowned or commonly owned resources must leave others with equal opportunities. Nobody is entitled to a larger than equal share of the initial resources.

References

Arrow, Kenneth J. (1973) Rawls's Principle of Just Saving. Swedish Journal of Economics 75, 323-335.

Brennan, Geoffrey/Buchanan, James M. (1985) The Reason of Rules. Cambridge: Cambridge University Press.

Coase, Ronald H. (1960) The Problem of Social Cost. Journal of Law and Economics 3, 1-44.

Elster, Jon/ Roemer, John E. (eds., 1991) Interpersonal Comparisons of Well-Being. Cambridge: Cambridge University Press.

Gauthier, David (1986) Morals by agreement. Reprinted 1988. Oxford: Oxford University Press.

Grout, Paul (1977) A Rawlsian Intertemporal Consumption Rule. Review of Economic Studies 44, 337-346.

Hobbes, Thomas (1651) Leviathan. Edited by C. B. Macpherson 1968. Reprinted 1987. Harmondsworth: Penguin Books.

Houba, Harold/Weikard, Hans-Peter (1995) Interaction in Anarchy and the Social Contract: A Game-theoretic Perspective. Discussion paper TI 95-186. Amsterdam: Tinbergen Institute.

Hotelling, Harold (1931) The Economics of Exhaustible Resources. Journal of Political Economy 39, 137-175.

Laslett, Peter/Fishkin, James (1992) Introduction: Processional Justice. in: Laslett/Fishkin (eds.) Philosophy, Politics and Society: Series VI, Future Generations. New Haven: Yale University Press. 1-23.

Locke, John (1690) Two Treatises of Government. Edited by Peter Laslett. 2nd ed. Cambridge 1967: Cambridge University Press.

Mises, Ludwig (1927) Liberalismus. Jena: Gustav Fischer.

Mueller, Dennis C. (1974) Intergenerational Justice and the Social Discount Rate. Theory and Decision 5, 263-273.

Nozick, Robert (1974) Anarchy, State, and Utopia. Reprinted Oxford 1980: Basil Blackwell.

Ramsey, Frank P. (1928) A Mathematical Theory of Saving. The Economic Journal 38, 543-559.

Rawls, John (1971) A Theory of Justice. Cambridge, Mass.: Harvard University Press.

Rawls, John (1993) Political Liberalism. New York: Columbia University Press.

Solow, Robert M. (1974) Intergenerational Equity and Exhaustible Resources. Review of Economic Studies (Symposium 1974) 29-45.

Weikard, Hans-Peter (1994) Fairness as mutual advantage? A comment on Buchanan and Gauthier. Economics and Philosophy 10, 59-72.

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