

Bioethics of protection: a health practice evaluation tool?

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Abstract *Bioethics of protection (BP) was proposed in the early 21st century in bioethics, built in Latin America following attempts by researchers to work on the possibilities of public health policies being morally legitimate, socially fair (equitable) and respectful of human rights, after noting the limits of traditional bioethical tools, essentially implemented in and restricted to interpersonal conflicts between moral agents and patients involved in the practice of biomedicine. Methodologically, BP tries to negotiate distinct problematic disciplinary realms that are, however, interlinked through interdisciplinary dialogue and common concern with the quality of life of the human population, considered in its natural, technological, social and cultural contexts: Public Health, concerned with the health and well-being of individuals and populations; Bioethics, concerned primarily with the moral legitimacy of practices that affect their quality of life; Biopolitics, concerned with the social effects of health policies.*

Key words *Bioethics of protection, Biopolitics, Public health, Equity, Sustainability*

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Introduction

In this work, we will try to show why and how tools of the so-called “Bioethics of Protection” (BP) can help us address “morality” (i.e. moral implications) of activities known as “health practices”, understood as the set of activities and specific devices with which society responds to health problems of own individuals and human populations, where Public Health can be considered as an important area of biopolitics, broadly understood as the *interdisciplinary science that studies the integration and reconciliation of modern society and its institutions with the basic organic support infrastructure (nature, climate, soil health, water purity, etc.)*². Yet here we will not enter into the merits of the uncertainties that accompany the concept of biopolitics, which refers to contemporary phenomena in which *life is directly implicated in power, which seem to cover a very broad and incoherent spectrum of events and are seen as irreducible to the legal and political categories of modern tradition that separates private from public and legal entities from individual persons*³. We shall use an analogy here: just as public health is historically traversed by a *striking swing between life and death prospects, which reveals a unique coincidence of timings [and] a complete disagreement of scopes [which] may reveal the total polarity of political decisions in the contrast between life and death rather than countless evidence*⁴, likewise, the concept of biopolitics is *traversed by uncertainty [which] prevents it from any stable connotation [and that] seems to make it not only an instrument, but also the object of a harsh philosophical and political confrontation on the configuration and destination of our time*⁵.

In particular, BP intends to take care of the morality of public health’s practical activities, understood as belonging to the broad field of biopolitics and that, in Brazil, must take into account the proposal of the Unified Health System (SUS), which in principle ensures *universal and free access to the entire population of the country*⁶, but which must face countless criticisms about contradictions and dilemmas involved in effective governmental action in health. Whereas such activities should be managed “pragmatically”, that is to say, they should be concerned with the concrete effects – particularly the “harmful” ones – which result from the implementation of a given policy and whether such effects are in line with the efficacy and effectiveness of their programs on the health and well-being of the population, and whether they are “sustainable” from an eco-

nomonic, social and environmental viewpoint, without forgetting that *world’s health is indivisible and is a common good that is necessary and can be expanded everywhere*⁴. From the methodological standpoint, BP can be seen as a tool to deal with health practices’ morality and that becomes a transdisciplinary key insofar as it tries to have different, yet not separated knowledge interact or “communicate”, such as life and health sciences, biotechnology, humanities and social sciences, as is the case of public health, where such knowledge may conflict, but also interact, since health care is in principle for all the citizens. In fact, such knowledge can have congruent and even common goals, such as the health and well-being of individuals and human populations – and non-human ones, like sentient beings in general – which can be translated by the moral principle of *preventing avoidable suffering*, and which can be seen as a general (or even universal) principle of secular, guided by the longing for “quality of life”, which is a content that refers to the paradigm that deals with the *well-being and/or [the] respect for the autonomy of the person*, and which would have historically become *the decisive and determining criterion for moral choices* in democratic and pluralistic societies⁷.

The complex set of health practices

Health practices may be seen as a complex set consisting of the following areas of knowledge both theoretically and practically linked to each other:

(a) *public health*, concerned with the health and well-being of individuals and human populations considered in their natural, technological, social and cultural contexts (or environments) and related to the *human rights’ culture* (here indicated by the initial citation), which is an important (or basic) component of bioethics itself, as shown in the 2005 UNESCO Universal Declaration on Bioethics and Human Rights, which affirms in its article 3 - *Human Dignity and Human Rights* - that *a) Human dignity, human rights and fundamental freedoms are to be fully respected and that (b) the interests and welfare of the individual should have priority over the sole interest of science or society*⁸;

(b) *biotechnoscience*, which aims to transform living beings and environments in view of the quality of life of individuals and populations, and which can be seen as *the set of theoretical, technical, industrial and institutional tools that aim to understand and transform living beings and*

processes, according to health needs / desires [and] aiming at the well-being of human individuals and human populations.⁹; and:

(c) *biopolitics*, a term which – according to a broad definition devoid of a “stable connotation”⁴ by Foucault – means *what makes life and its mechanisms come in the field of explicit calculations and makes knowledge-power a human life transformation agent*¹⁰ and which indicates a concern with the problematic effects of health policies on life as a whole.

To which we can currently add:

(d) *bio-law*, understood as an extension of traditional medical law which deals with the *legal implications [of] biomedical sciences and biotechnologies applied to man, and, by extension, all living matter*¹¹, which, in particular, deals with the legal norms regulating human behavior in the face of advances in biotechnoscience and the extension of biopolitics, and which is concerned – in a broader sense – with the so-called “human rights culture”, which is also an important topic for bioethics.

It should be added that, in its dialogue with other knowledge, this law branch *that deals with theory, legislation and jurisprudence concerning the norms regulating human conduct in the face of advances in biology, biotechnology and medicine* refuses to hold a *merely instrumental role* in relation to the other knowledge involved, making its object of study a *complex, heterogeneous matter that confronts existing norms that are often foreign to it*¹².

The following is a brief BP genealogy that aims to show how the concern with the support (or “protection”) of the so-called “vulnerable” beings is a constant of ethics itself from its onset, as the etymology of the very term *ethos* seems to show.

BP genealogy

The expression *bioethics of protection* was recently introduced in bioethics and built in Latin America¹³. It was initially called *ethics of protection* and understood as ethical reflection on health justice in situations of scarcity¹⁴. Thus, it emerges as a bioethical and political project conceived by Latin American researchers to consider public health policies with contents and practices to be analyzed from the implementation and adaptation of bioethical knowledge tools to the conflicts and moral dilemmas that arise in public health and after noting the limits of traditional bioethical tools, essentially restricted to conflicts in biomedical practices¹⁵.

In fact, while not explicitly associated with the word “bioethics”, the term “protection” already exists in the contemporary lexicon of applied ethics – for example, referred to the morality of research with human subjects in the field of biomedicine – at least since the publication, in the USA, of the *Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research* (1979) by the *National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research*¹⁶, which sought to develop the “basic ethical principles” that should be observed in research involving human beings and which would enable them to protect their rights and well-being. However, in this document, concern for human well-being and quality of life refers only to individuals and to interpersonal relationships, and therefore is a device essentially limited to individual protection, without entering into the merits of collective protection¹⁷.

In turn, the State’s legal and institutional concern to protect subjects and human populations against threats and damage to their health and well-being has been part of the Modern State’s tasks at least since the early 18th century, when a first form of biopolitics called “medical police” (*Medizinischepolizei*) emerges in Prussia, concerned with improving the health status of the population¹⁸.

In its first formulations, bioethics of protection (BP) was also an attempt to recover the ancient meaning of the Greek word *ethos*, which – according to its etymology – originally meant “lair” or “breeding” (for animals), and then “residence”, “abode”, “place where one dwells” (for humans), and at last acquired the meanings of “custom”, “habit”, and “character”. In our view, such terms have “a family atmosphere”, which we summarize by the meaning of the word “protection”¹⁵.

We justify this choice by the *etymological method* considered as *one of the ways of fathoming reality (...) fully justified* [and which shows] *its fecundity for the study of Ethics*¹⁹.

Actually, *the etymological research on ethics* shows that the word *ethos* was applied *primarily, especially in poetry, with reference to animals, to allude to the places where they are raised and found, [their] pastures and lairs, and then to peoples and men as in their country, and may be understood as the firm ground, the foundation of praxis, the root from which all human acts spring*¹⁹.

A similar “redemptive” operation of the old meaning was made in contemporary times by

Martin Heidegger, who, in his *Letter on Humanism*, regains the primordial meaning of the word *ethos* in the sentence of Heraclitus *êthos antrôpoi daímon* (*the ethos of man is his daímon*)²⁰. Heidegger says Heraclitus' sentence should in fact be translated as *the (familiar) dwelling is to man that which is open to the presentification of the God (the unfamiliar)*, by which *êthos* is being understood as *abode, dwelling place (...)* *the open realm where man dwells [and which] makes manifest that which comes to meeting the essence of man and so, coming ever so near, lingers in his proximity, where the abode of man contains and preserves the advent of that to which man belongs in his essence*²¹. In other words, in this "letter", the author, concerned with subsuming ethics in ontology, advocates the thesis that ethics is knowledge that affirms the abode of the human in being, and considers the truth of being as the original human element. Thus, Heidegger intends to point out an internalization of the *ethos* to the subject itself, bringing this concept closer to the other Greek concept *hêxis* ("custom") once more, since that which refers to *ethos* is no longer an external place in which one lives and that can, eventually, protect, but, rather, "the 'place' that man carries within himself, his inner attitude, his reference to himself and to the world (...) the firm ground, the foundation of *prâxis*, the root from which all human acts spring forth".

From the original meaning of the word *ethos* – "dwelling", "habitat" open to the "unfamiliar" – a bioethics proposal must "protect" moral patients consisting of people, communities, other living species and the very "world of life" (*Lebenswelt*) in the face of the possible harmful consequences of the acts of moral agents that can harm moral patients. Infringing, therefore, the general moral principle of preventing the avoidable suffering to all sentient beings.

The bioethics of protection arises, in particular, by considering specificities and shortcomings of the so-called "developing countries", but without forgetting that it can be implemented, *mutatis mutandis*, to the situation of the globalized world insofar as it is increasingly affected by a synergy of causes with a "catastrophic" effect, that is, a situation in which *we live the emergence of humanity as almost subject; the inceptive understanding that own destiny is self-destruction; the birth of an absolute requirement: to avoid self-destruction*²².

There are, of course, more specific conditions of the so-called "developing" (or "underdeveloped") part of the world, such as those of

"extreme poverty" and deprivation of economic freedom, which may make people hostages or victims of violations of other freedoms necessary to perform their life projects, or of deprivation of social and political freedom that can generate the deprivation of economic freedom. That is – to use a term of Amartya Sen – deprivation of the capability to live a dignified life²³. But this does not exempt us from thinking in more global terms and in the long term, considering, for example, the problems that affect the planet as a whole and humanity as a species (symbolized by the concern for "future generations"), which may be done using the *bioethics of protection* tools both in its strict sense (when referring to individuals and populations of susceptible and vulnerable human species) and broad sense, referring, for example, to animal species and environmental systems, which are also under threat, that is, in situations of risk and damage. In fact, BP can be applied *stricto sensu* to moral patients that we identify as *vulnerable*, that is, they are not able to protect themselves or have no protection from the family, the group to which they belong, the state or society itself, and, thus, BP can be considered as a manifestation of a constant concern that crosses the history of human coexistence ways, which is clearly manifested in the culture of human rights, or, more broadly, involves relationships between humans and other types of beings or living environments, as in the case of animal rights and environmental protection.

In fact, according to Miguel Kottow, there would historically exist a *tradition of the concept of protection* that would begin, in the Modern Era, with the emergence of the nation-state, and the *philosophical-political elaboration of the social contract* with Rousseau, which is when the fundamental State role of protecting own subjects *against the risks and failures of individual natural life or to neutralize violence between individuals*, with Hobbes, and later with Mill, who developed *the concept of protecting citizens' rights, providing contemporary thinkers with a foundation to confirm that, of all its possible functions, the State is obliged to protect the life and property of its citizens, even if it disagrees on any other commitment*²⁴.

In particular, BP appears in the field of applied ethics and bioethics through the establishment of an interface, on the one hand, between the problem of public health and its moral realm – which, in turn, can be seen as having a relationship with politics and biopolitics – and, on the other hand, the issue of the moral conflict involved in health practices, addressed by applied

ethics, especially by bioethics and by biopolitics. That is, in order to be able to consider the conditions of possibility and their moral justifications for public health policies, and so that the corresponding governmental actions may be considered by their addressees and users (or, as some prefer, their “customers”), not only effective (when evaluated in their ability to actually provide protection and ensure a quality of life that can be seen as being at least reasonable), but also legitimate (when viewed from the implementation and adaptation of tools of bioethical knowledge to the moral conflicts and dilemmas that arise in Public Health). The justification for this attempt to establish an interface between public health and bioethics was to have found the limits of the traditional bioethical tools, essentially applied to interpersonal conflicts of the moral agents and patients involved, when, in fact, it should be considered that such conflicts also occur among populations and species, as shown by current conflicts in public policies such as health policies, which must conform to some type of health justice (such as that implied by the Brazilian Unified Health System).

Therefore, this new field of practical ethics addresses, in particular, health problems, focusing on individuals and populations affected in their health and well-being in a meaningful way, and inserted in a broad context that can be qualified as that of situations of scarcity – which are those in which the “susceptible” and “vulnerable” must live, which are the object of *stricto sensu* study of BP.

As bioethicist Miguel Kottow also points out, the expression “bioethics of protection” was preceded by the expression “ethics of protection”, which refers to the meaning of an ethos that *leaves the field of reflection and dedicates itself to action, recognizes the real needs of existing human beings, for whom consolation occurs not through philosophy, but care*, and it may be said that *the ethics of protection are concrete and specific; concrete, because they serve real individuals suffering from impairment or insufficient empowerment that are visible and specific because each deprivation is identifiable*²⁴. Thus, Kottow also affirms that therapeutic actions should be seen as *specific and concrete protections, both socially and individually* and recognize that *human beings are different in their natural and material endowment, as well as in their empowerment*, which implies that we should develop *a moral thought for the state of inequality in which mankind has always lived and protection as ethics to fight against inequality*

should be recognized, which would imply *a conscious moral agenda where longings of equality and autonomy include a support to the weak that will enable them to undertake the path toward equanimity*²⁴.

Discussion

Traditionally, the word ethics, originating from the Greek word *ethos*, has been referred to either to the study or thematization of the moral agents’ morality and, in particular, understood as a study (or “calculation”) on the consequences of their acts, in other words, referred either to the “good character” (or “virtue”) of individuals who act in the human world and who may have, with their practices, harmful consequences on third parties, or the morality of “customs” or habits in force in a community or population (*polis, comunitas*, nation-state) and that can work as a standard of behavior, as a norm of action that can be considered rational. But contemporary sensitivity, from which the need to reconsider the morality of human *praxis* in a world perceived as complex and conflicting emerges, and from which the need to reconceptualize the traditional ethics in terms of bioethics, understood as “ethics of the quality of life” allows us also to recover the probably primordial meaning of the word *ethos*, which – as we have seen – is precisely that of “abode”, “lair” or “shelter”, that is – in our terms – protection.

We advocate the theory that Public Health understood as the central field or target of biopolitics is not only related to protection, but also the fact that this protective character represents, simultaneously its specific – as is the case of *stricto sensu* BP that deals with susceptible or vulnerable humans – and comprehensive task, which is the case of *lato sensu* bioethics, concerned with animals and natural environments, when they are impaired in their autopoiesis and qualities. In fact, the two versions of BP have a common denominator indicated by the “quality of life principle” and that allows understanding public health comprehensively, as a set of disciplines and practices with a specific purpose of studying and protecting the health of human populations in their natural, social and cultural contexts (a definition that corresponds *mutatis mutandis* to that of health given by WHO). Thus, we can reformulate the dual task of preventing illness and managing health risks, on the one hand, and promoting healthy lifestyles, on the other, as the two inseparable aspects of protection; that is to say,

the activity of “protecting” seems to be presupposed in the two complementary aspects implicit in health policies, which are prevention against illness and promotion of healthy lifestyles, which can be seen as the two faces of protection.

Therefore, we can say that there is:

(1) a “negative” protection, understood as a set of preventive measures *against* illness and threats in general that affect (or may affect) the quality of life of a population of human individuals;

(2) a “positive” protection, understood as that which “promotes” and favors human self-development, and which is a necessary condition for the exercise of its *autonomy*.

In addition, from an anthropological and psychological viewpoint, “protecting” can be seen as a characteristic experience of “human mammals”; known to parents, who begin by protecting their offspring so that they can develop emotionally and cognitively until they become self-sufficient and independent, that is – to use the expression of Amartya Sen – to become “capable”; thus stepping out – and according to our terms – of the condition of vulnerability.

Here we try to indicate why BP can be considered a “paradigm” to be able to understand public health’s conflicts from the moral standpoint and to try to solve them in a justified way. We have also seen that protection can be understood in its dual negative and positive sense, that is, protection *against* threats and protection *for* the development (or *self-development*) of each autonomous subject in assuming his life and destiny; that is, by “empowering” himself.

In this case, BP, in addition to trying to avoid criticism of traditional medical and health paternalism, in principle, should also avoid blaming the victims of illness, otherwise, rather than protective, it could become “repressive”. This observation is important because a very common objection to BP is that it would ultimately result in paternalism, since protective agents would make decisions without consulting patients to be protected, in other words, disregarding their potential “capability” to make decisions about their lives; but actually, BP applies properly only to individuals and populations of vulnerable and susceptible people who cannot make decisions on their own, and not the simply vulnerable, which are, in fact, all living things, competent or not. In addition, protection is in principle provided, not imposed to recipients.

Thus, if health authorities are legitimate in their practices, they can be held accountable for a

reasonable and effective level of well-being of the population; by ensuring access to health services to the entire population in need; through the prevention of epidemics and other collective health programs, such as the promotion of the so-called “healthy” lifestyles. In this case, responsibility for health policies rests with the managing health agent (who represents a legitimately established institution), who must take the necessary actions to respond to the health needs of the population by protecting it against their “vulnerability” and the concrete threats to their health, despite the difficulties it poses, including from an economic point of view, at least if we consider that material resources are not infinite and are in fact scarce. This may, in many cases, imply real moral dilemmas or “Sophie’s choices”.

In other words, protective responsibility necessarily implies control of the results of the public policies adopted, thus evaluating the effectiveness of the practices of public institutions and their agents (or employees). Thus, the principle of protection – also necessarily – implies the duty of efficacy as a condition for legitimately intervening in the lives of citizens, including limiting personal autonomy to the demands of the common good, when this is necessary and there are no other means (as in the case of epidemics and pandemics).

In fact, when the concept of protection developed by bioethics is applied to public health’s issues, such concept, in order to try to understand its moral aspects and resolve the conflicts involved that affect its quality of life aims to integrate two aspects that are linked: the moral responsibility of health agents and their pragmatic effectiveness, which will be observed in the benign or harmful effects of the implementation of certain health policies, and BP can therefore be considered as a genuine tool, at the same time analytical and pragmatic of applied ethics insofar as it is capable of analyzing and resolving conflicts, with the aim of trying to solve them in practice and considering the quality of life and well-being of health policies’ recipients.

In short, bioethics based on the protection principle seems to be able to legitimize health policies intended to be universalist, as is the case of health policy inspired by the Brazilian Constitution and the principles of the Unified Health System (SUS). However, BP should also respect, as far as possible, the plurality of values and interests that permeate collectivities, not by imposing behavior that could infringe the fundamental rights of individuals and specific groups, but by

providing – not imposing – models of behavior considered valid from the viewpoint of prevention of illness and health promotion, which can also be seen as a role of health education programs.

However, there are some exceptions to this general rule, as in the case of epidemics that can significantly affect the health of the population and imply coercive measures imposed on individuals or groups that make up the population. In this case, therefore, the principle of protection of the “social body” as a whole against the threats of individuals and groups that may harm it applies.

Final considerations

As we have shown, bioethics applied to public health and based on the *principle of protection* recovers the primeval meaning of ethics and belongs to a socially important tradition (that of

19th century social medicine) that values, at this time of attempts to reinstate a “Minimal State”, a relevant role of the Modern State, which, it may be argued, is legitimate only if it has the competence to provide adequate protection to its citizens, even when their subjects decide for a good reason not to accept such protection. In fact, in this case, the interests of the common good can make legitimate the compulsory measures that limit individual freedom and which, if not adhered to, may entail sanctions against transgressors. In short, public health protection validates some form of restriction of the exercise of individual autonomy, based on the lexical priority of social rights over individual rights.

However, as we outlined it here in terms of protecting susceptible and vulnerable individuals and populations, in order for public health bioethics to have its expected results, we cannot do without the necessary condition that individuals part of the community are at least reasonable or sensible.

References

1. Kottow M. *From Justice to Protection. A Proposal for Public Health Bioethics*. New York: Springer; 2012.
2. Houaiss A, Villar MS. *Dicionário Houaiss da língua portuguesa*. Rio de Janeiro: Objetiva; 2001.
3. Bazzicalupo L. *Biopolítica. Una mappa concettuale*. Roma: Carocci; 2010.
4. Berlinguer G. *Storia della salute da privilegio a diritto*. Firenze: Giunti; 2011.
5. Esposito R. *Bios: biopolítica e filosofia*. Lisboa: Ed. 70; 2010.
6. Brasil. Ministério da Saúde (MS). Entenda o SUS. [acessado 2016 jun 30]. Disponível em: <http://portalsaude.saude.gov.br/index.php/cidadao/entenda-o-sus>.
7. Mori M. *Manuale di bioetica. Verso una civiltà biomedica civilizzata*. Firenze: Le Lettere; 2012.
8. Organização das Nações Unidas para a Educação, Ciência e Cultura (UNESCO). *Declaração universal sobre bioética e direitos humanos*. [acessado 2016 jun 29]. Disponível em: <http://unesdoc.unesco.org/images/0014/001461/146180por.pdf>
9. Schramm FR. A moralidade da biotecnociência: a bioética da proteção pode dar conta do impacto real e potencial das biotecnologias sobre a vida e/ou a qualidade de vida das pessoas humanas? In: Schramm FR, Rego RS, Braz M, Palácios M, organizadores. *Bioética, riscos e proteção*. Rio de Janeiro: Ed. UFRJ/Ed. Fiocruz; 2005. p. 15-28.
10. Foucault M. *La volonté de savoir*. Paris: Gallimard; 1976.
11. Casabona CMR. Biodroit. In: Hottois G, Missa J-N, organizadores. *Nouvelle encyclopédie de bioéthique*. Bruxelles: De Boeck Université; 2000. p. 112-117.
12. Barbosa HH. Princípios da Bioética e do Biodireito. *Bioética* 2000; 8(2):209-216.
13. Schramm FR. A Bioética da Proteção em Saúde Pública. In: Fortes P, Zoboli E, organizadores. *Bioética e Saúde Pública*. São Paulo: Ed. Loyola; 2003. p. 71-84.
14. Kottow M. Sanitary justice in scarcity. *Cad Saude Publica* 1999; 15(Supl. 1):43-50.
15. Schramm FR, Kottow M. Princípios bioéticos en salud pública: limitaciones y propuestas. *Cad Saude Publica* 2001; 17(4):949-956.
16. National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. Washington: U. S. Government Printing Office; 1979.
17. Kottow M. *Bioética en Salud Pública*. Santiago: Editorial Puerto de Palos; 2005.
18. Foucault M. O nascimento da medicina social. In: Foucault M. *Microfísica do poder*. Rio de Janeiro: Ed. Graal; 1988. p. 79-111.
19. Aranguren JLL. *Ética*. Madrid: Editorial Biblioteca Nueva; 1997.
20. Peters FE. *Termos Filosóficos Gregos*. Lisboa: Fund. Calouste Gulbenkian; 1983.
21. Heidegger M. *Sobre o "Humanismo": Carta a Jean Beaufret, Paris*. In: Heidegger M. Conferências e escritos filosóficos. São Paulo: Abril Cultural; 1979. p. 147-173. (Coleção Os Pensadores).
22. Dupuy JP. *Petite métaphysique des tsunamis*. Paris: Seuil; 2005.
23. Sen A. *Desenvolvimento com liberdade*. São Paulo: Companhia das Letras; 2000.
24. Kottow M. Bioética de protección. In: Tealdi JC, organizador. *Diccionario latinoamericano de bioética*. Bogotá: UNESCO, Red Latinoamericana y del Caribe de Bioética, Universidad Nacional de Colombia; 2008. p. 165-167.

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