

# Popper's Piecemeal Engineering and Social Reform in Africa

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**Abstract**— One of the most important themes of Popper's political thought is his idea of piecemeal social engineering. Karl Popper's piecemeal engineering is intended primarily to detect social problems and assess the results of societal policies with the aim of solving them gradually. Popper thus understands his piecemeal engineering as a requirement for social transformation. He advocates this view over and against utopian social planning. In discussing Popper's piecemeal engineering as a model for achieving necessary major social and political change, this paper considers the political philosophy aspect of Popper's philosophy as it relates to his notion of piecemeal engineering. Here Popper emphasizes openness of society. But what is of particular interest to us is the question of the scale and speed of social change that is needed in a society, particularly as it concerns less developed nations. Given the scale of socio-economic and political change needed in less developed nations, we contextualize this study to Africa using the critical and analytic methods in philosophy. Popper develops thoroughgoing arguments that open democratic societies are far superior to closed totalitarian regimes that Marxism heralds. No doubt, Popper may be right in his criticism of historicism. Yet for all of this, we are concerned about what we see as a defect in Popper's political philosophy, namely how one can truly make use of Popper's political philosophy to get fully informed about legitimate political aspiration for one's part of the world. The point is that science, unlike the political ideals for societies, is not meant to reflect cultural difference. Popper's insistence that social engineering must proceed piecemeal therefore seems praiseworthy only in an already deeply civilized society, but in disrupted and corrupted circumstances, such as those in some parts of Africa, insistence on merely piecemeal social engineering is hard to defend. This paper rather argues that what it calls "piecemeal-holistic political reform" is more likely to bring about the desired social transformation in Africa and is a defensible approach that is not vulnerable to Popper's arguments against utopian social engineering.

**Holism**—Engagement in large-scale social planning.

**Keywords**— *Piecemeal Engineering, Social Reform.*

## I. INTRODUCTION

Karl Popper in his *The open Society and its Enemies*, sought among other things to theorize on how best alterable socio-political order can be changed peacefully without tempering with the established traditional structures of the society. In an open society, Popper argued, "policies and institutions are modified by continual monitoring of their effects, and in the light of their ability to solve the problems they are supposed to solve"<sup>1</sup>. Thus, in the social science the application of the engineering or technological approach in solving social problems imposes a discipline on our speculative inclination, which may lead us into the region of metaphysics. To avert this problem, the approach compels us to submit our theories to definite standards of clarity and practical testability.

Prima facie, the engineering approach implies the adoption of our activist attitude towards social order – identifying and solving the societal interests one after the other. However, Human interests in social groupings are multifarious hence the difficulty to identify one interest at a time. There is also, as Corvi observes, the difficulty in applying the scientific methods of the natural sciences in explaining and predicting social phenomena,<sup>2</sup> since social behaviour defies causal laws and the exactness associated with the natural science.

Karl Popper argues that piecemeal social engineering is the gateway to social reforms. According to him, it is through criticisms and a piecemeal approach that we discover result of a particular social policy or action.<sup>3</sup> This means that the piecemeal social engineer attempts to solve his problem in a piecemeal manner knowing the appalling consequences of an unexpected result; he never attempts to solve his problem in a holistic manner. Indeed, Popper argues for piecemeal engineering on the ground that it involves self-criticism, tactfulness and certainty and is therefore more scientific in character, unlike the holistic engineering which he believes lacks self-criticism and involves much of speculation and

often leads to unexpected surprises.<sup>4</sup> Popper's piecemeal social engineering is, thus, meant to promote peaceful reform and social stability as it rejects violent holistic social change.

Admittedly, it is true that a violent public approach to socio-political issues often leads to unforeseen mistakes, as was the case with the first Nigeria military coup d'état of 15th January 1966.<sup>5</sup> The French Revolution of 1789, however, has shown that violent holistic change is sometimes inevitable in a deviant government.<sup>6</sup> Therefore, the truth of the matter is that although piecemeal social engineering is more relevant and practical in the contemporary period than the holistic redesign of the society with its attendant problems, it is more of a fiction to think that Popper's theory is absolute in the face of a government of extreme corruption, tyranny and injustice as is the case in many contemporary African countries.

Furthermore, Oseni Taiwo Afisi rightly noted that the political ideals for societies is a reflection of cultural differences.<sup>7</sup> This is unlike science which does not necessarily reflect cultural differences and this is what Oseni means when he says that, "that which is ideal in the struggle to produce objective knowledge of nature is more reliable to be culturally universal than that which is ideal within the struggle to optimize power relations between people."<sup>8</sup> The point here is that cultural differences can make a difference to political ideals but not to scientific ideals.

The liberalism of Karl Popper is individualistic and not every culture is individualistic. Indeed, there are special cultural behaviors in some part of Africa such as Nigeria that, again, we believe underwrite confidence that faster, sweeping political change, if tried, could work more reasonably. We will, therefore, argue in this paper that Popper overlooked important problems with certain kinds of piecemeal engineering and that what we now call "piecemeal holistic political reform" is a defensible approach that is not vulnerable to Popper's arguments against utopian social engineering.

## II. THE IDEA OF PIECEMEAL SOCIAL ENGINEERING

In his *The Open Society and Its Enemies*, Karl Popper examined the application of the critical and rational methods of science to the problems of the open society. In this respect, he made a crucial distinction between the principles of democratic social engineering (what he called piecemeal social engineering) and utopian social engineering. Popper writes, "The piecemeal engineer will, accordingly, adopt the method of searching for, and fighting

against, the greatest and most urgent evils of society, rather than searching for, and fighting for, its greatest ultimate good."<sup>9</sup> According to Popper, the difference between piecemeal social engineering and utopian social engineering is succinctly stated thus:

It is the difference between a reasonable method of improving the lot of man, and a method which, if really tried, may easily lead to an intolerable increase in human suffering. It is the difference between a method which can be applied at any moment, and a method whose advocacy may easily become a means of continually postponing action until a later date, when conditions are more favorable. And it is also the difference between the only method of improving matters which has so far been really successful, at any time, and in any place, and a method which, wherever it has been tried, has led only to the use of violence in place of reason, and if not to its own abandonment, at any rate to that of its original blueprint.<sup>10</sup>

To make this work more focused and precise, the work of Oseni Taiwo Afisi titled *Karl Popper's Piecemeal (or many pieces at once) Social Engineering* is reviewed in what follows as a guide to our present work. It is nevertheless the subject matter of this paper. According to Oseni, the piecemeal engineering approach is the introduction of modest changes to address specific problems, and to adapt to progressively modified changes and policies in response to the observed consequences of those interventions.<sup>11</sup> In his view, it is a small scale intervention to deal with social issues, and to see whether they are producing their intended effects, and to find ways of mitigating any unintended consequences. Therefore, in line with Popper's theory of falsifiability, piecemeal social engineering is a trial and error approach to learning that seeks to refine interventions based on that learning.

Popper's political philosophy is interwoven with his philosophy of science. For as Ackermann observes, Popper believes that with falsification, conjecture and refutation, anyone may criticize and contribute, and we can learn from one's mistakes through piecemeal engineering.<sup>12</sup> Also, through this approach, we can eliminate errors and make better social reforms than can be done by utopian/large scale social planning. Based on this understanding, piecemeal engineering is claimed to provide a practical underpinning for a scientific-experimental intervention in society involving a process of social learning.

Now, the scientific approach to Popper's idea of piecemeal engineering tries to demonstrate how the method of changing few variables in a piecemeal manner can help in recognizing the consequences of the changes we have produced. The idea is that piecemeal engineering involves a

process of changing few variables in a manner of error elimination, trial and error, and this would function as experiments through which theoretical assumptions could be tested. For as Oseni observed, with changing only a few variables we can know the possible effects of the changes made. If, on the other hand, we manipulate several variables at the same time, since the consequences will be a joint outcome of those multiple changes, it will be extremely difficult to tell the role of each factor in producing these consequences, of which some will probably be undesired.<sup>13</sup>

Oseni observes that for Popper, the way to disentangle causes and effects is to avoid undertaking reforms of a too greater complexity,<sup>14</sup> which implies that it is always possible to know the effect of the changes we have introduced in social reform. This is certainly one reason why Popper rejects Marxian social reform that proposes a sweeping change. Hence, Oseni says that “In Popper’s estimation, by recommending a sweeping social change, it would be hard to determine exactly which aspect of the intervention is having the most influence – if really our concern is with understanding causes and effects. So, without disentangling causes and effects, one might confuse the issue of social transformation with the question of which kind of intervention would seem most likely to achieve the desired end.”<sup>15</sup> Therefore, to achieve a desirable end is to approach social problems piecemeal so as to avoid any poorly considered intervention in a sweeping grand scale manner.

Oseni, however, argues that the phenomenon of piecemeal engineering which is construed of in terms of performing minor reform or making few changes at a time is not mostly appropriate for issues of societal concern. In fact, he describes piecemeal engineering as snail-pace ideology which is grossly inadequate to address the question of social reform in Africa.<sup>16</sup> This, according to him, is because the ideology is inadequate to handle, for instance, the recurring problems of poverty, injustice, electoral fraud, unemployment, diseases, corruption, police brutality, bad leadership, poor development of science and technology, poor education, and underdevelopment that characterizes most democratic societies of developing African nations.

Oseni then concludes that appropriate solutions to societal issues may depend on the social condition of every society, insisting that a radical approach might, therefore, be applicable to radical conditions.<sup>17</sup> He observes that Popper confused science with politics when he asserts that piecemeal social engineering is characterized by the trial and error model on which falsification of scientific theories are founded – “but there is certainly no guarantee that

scientific theories can pass also as theories of political philosophy.”<sup>18</sup>

It should be noted that what Popper criticizes as historicism is the basic assumption in the field of the social sciences that it has the possibility of certitude concerning sweeping historical prophecies of societal developments with certainty. This, of course, is a remarkable fit of achievement. But, as Oseni rightly observes, he misses the point at the level of his introduction of piecemeal social engineering as the solution to holism or historicist ideas. He writes:

Granted that controlled variables are possible in scientific method of conducting research and acquiring knowledge, it is extremely difficult, if not impossible, to control or manipulate people or events of societal phenomena. In other words, there are no standard techniques in coordinating and organizing society.<sup>19</sup>

Although Oseni agrees with Popper that piecemeal engineering is a requirement for social learning and social transformation as it is intended primarily to detect social problems, and assesses the results of public policies aimed at solving them in bits and pieces, he presented a modified position to Popper’s and argues that social reforms often require

“many-pieces-at-a-time” social engineering. He contends that his “many-pieces-at-a-time” social engineering is superior to Popper’s ‘piecemeal engineering’ in the context of African societies on the ground, among others, that piecemeal social engineering in Popper’s conception seems too slow to have significant consequences on radical institutional changes; that since it would require a significant change (cause) to achieve noticeable consequences (effect) in social relations, it would be difficult to see what effect small piecemeal changes can have in achieving noticeable consequences in changing society; and that while Popper’s piecemeal social engineering only seems most sensible where societies are already deeply developed, societies that are less developed require faster, sweeping political change than can be achieved in the bits and pieces fashion which Popper advocates.<sup>20</sup>

### III. EVALUATION OF PIECEMEAL SOCIAL ENGINEERING IN THE LIGHT OF SOCIAL REFORMATION IN AFRICA

In his criticism of “historicism” Popper contrasted two kinds of predictions. In the one case we are told about an event which we can do nothing to prevent – a prediction which Avery referred to as a ‘prophecy.’<sup>21</sup> Opposed to these are predictions of the kind which we can do something to

prevent – prediction we may describe as technological predictions since predictions of this kind form a basis of engineering.

Popper thus contends that there are two basic different ways in which social engineers can use the results of a technological social science to reform social institutions and this led him to his distinction between two kinds of social engineering<sup>22</sup>. Just as the main task of the physical engineer is to design machines, remodel and service them, the task of the piecemeal social engineer is to design social institutions and to reconstruct and run those already in existence. Holistic or utopian social engineering, as opposed to piecemeal social engineering, aims at remodeling the ‘whole of society’ in accordance with a definite plan or blueprint.

From the above, it follows that the distinction between the piecemeal and the utopian types of social engineering stems from the fact that “the utopian approach flows from an insistence on determining one’s ultimate political goal, ideal state, before taking any practical action,”<sup>23</sup> whereas the piecemeal approach “flows from the insistence on attempting to locate and eradicate the greatest and most urgent social evils”.<sup>24</sup> Utopian social engineering, Popper further claimed, requires the centralized rule of a few, the suppression of dissent and, ultimately, the use of violence instead of reason to settle the disputes that arise in the pursuit of the ultimate goals of the engineers; while on the contrary, piecemeal social engineering allows democratic action, the tolerance of dissent and the use of reason and compromise to settle political disputes<sup>25</sup>.

Especially detestable to Popper were the brutal methods that he associated with utopian engineering. The “canvas cleaning” approach to the reconstruction of society that he perhaps found in Plato’s Republic seemed to him a terrible foreshadowing of the horrors inflicted upon millions of human beings by the totalitarian regimes of the twentieth century. Attempting to wipe the slate clean and redraw an entire society from scratch, based on a blueprint drawn up by visionaries, is not what he deemed a rational kind of social engineering as, according to him, it can only lead to disaster.<sup>26</sup> He purports that even with the best intentions of making heaven on earth it only succeeds in making it hell – that hell which man alone prepares for his fellow-men. Now, we believe there are some important problems with Popper’s analysis of social engineering and his criticism of utopian social engineering. The first problem is that Popper confused the question of the presence or absence of a set of “utopian” principles to guide political reform with the scope of a given effort at reform or of a given stage of reform. It is true that he allowed the possibility that piecemeal social

engineers might be guided by a utopian vision.<sup>27</sup> As Avery rightly observed, the politician who adopts this [piecemeal] method may or may not have a blueprint of society before his mind, he may or may not hope that mankind will one day realize an ideal state, and achieve happiness and perfection on earth.<sup>28</sup> But he will be aware that perfection, if at all attainable, is far distant and that every generation of men, and therefore also the living, have a claim. He seems, however, not to have realized what an important concession to utopianism this is. If piecemeal engineers can be guided by the vision of an ideal society then it is possible for a group of them to have exactly the same utopian vision for the whole of society as a different group of social engineers whom Popper would label “utopian.”

It may seem preferable to stick with the label “holistic” for the latter group since the words “piecemeal” and “holistic” seem to capture better the distinction that Popper had in mind. Unfortunately, however, the word “holistic” also has drawbacks in this context since both groups of reformers may have a vision for the whole of society and either group can be distinguished from reformers who seek to make one specific reform in order to eliminate one identifiable source of human suffering. The difference between the two groups of social engineers is not a difference in the vision that inspires their reform. The difference is in the way in which the two groups plan to implement their reforms. One group proposes to construct a new society from scratch, as it were, and the other proposes to change the existing society one step at a time. We can hardly fault Popper for criticizing the brutal methods of some social engineers but it seems to us misleading to call their approach “utopian” or even “holistic.” It is better, as Avery suggests, to label the two types of social engineering “revolutionary” and “evolutionary.”<sup>29</sup> This would help avoid confusing two entirely different issues: the scope of a given effort at (or stage of) reform and the scope of the vision that inspires the reformers.

Furthermore, Popper overlooked an important problem with the kind of piecemeal approach to reform that he favored. He acknowledged that even the most carefully considered reform may have unintended (and undesirable) consequences.<sup>30</sup> It seems to us, however, that piecemeal reform designed to cure one specific ill, to reduce or eliminate one area of human suffering, can very easily create unanticipated problems in other areas. In fact, Quine purports that one of the benefits of theories about the whole (or at least a large portion) of society is that they can tell us when changes in one area are likely to create problems somewhere else.<sup>31</sup>



Therefore, we contend that there is an approach to political and social reform in Africa that one may call “piecemeal-holistic reform” which can be useful in social reform in Africa and which can be defended against the criticisms that Popper leveled against utopian social engineering. Piecemeal-holistic social reform is an evolutionary or gradualist approach that resembles Popper’s piecemeal social engineering in that it proceeds step by step and does not attempt to rebuild the whole of society from scratch or abolish all undesired institutions at once yet it does not have to proceed one step at a time. Rather than unproductive and time-wasting one-step-at-a-time piecemeal engineering, piecemeal-holistic engineering can tackle several societal issues at once without necessarily attempting to rebuild the whole of society from scratch or abolish all undesired institutions at once. Piecemeal-holistic reform can be in the private sector or the public sector.

Popper regarded a revolutionary attempt to restructure society through large scale social planning as a consequence of historicism, and he rejected it, instead advocated piecemeal social engineering as a model for social reform. In this view, significant inspiration can be drawn from the conservatism that the piecemeal approach signifies. As a method of changing society, Popper’s piecemeal social engineering involves performing small scale reforms aimed at determining how public policies can produce maximum social benefits when the principle of negative utilitarianism is applied: the view that the aim of public policy is the alleviation of suffering rather than promotion of happiness. Negative utilitarianism requires us to promote the least amount of evil or harm, or to prevent the greatest amount of suffering for the greatest number. Popper’s idea is that governments should respond piecemeal to recognized social ills – to whatever is widely acknowledged to be harmful to the people. On the contrary, our proposed piecemeal-holistic reform is targeted at promotion of happiness and elimination of all evils and harms in the society albeit gradual approach – tackling many problems at once.

By advocating piecemeal social engineering, what Popper aims to avoid is the totalitarian woes that historicism and utopian social engineering lay upon social reform. Utopian or large scale social planning, Popper claims, requires the centralized rule of a few, the suppression of dissent and, ultimately, the use of violence instead of reason to settle the disputes that arise in the pursuit of the ultimate goals of the large-scale planners. Piecemeal social engineering, on the other hand, gives room for democratic ideals, the tolerance of dissent and the use of reason and compromise to settle political disputes.

With Popper’s arguments which clearly set apart piecemeal social engineering from utopian social engineering, it seems to us that Popper is right that the open society, where piecemeal social transformation holds sway, is far superior to tribal or closed totalitarian regimes. To Popper, tribal or closed societies very often base their social transformation agenda upon utopian social engineering of remodeling the whole of society at one sweep. This view, according to Oseni, underwrites Popper’s anti-utopianism and his negative utilitarianism.<sup>32</sup> With the principle of negative utilitarianism, Popper’s aim is that the amelioration of suffering of the citizenry can be better achieved through a bits and pieces approach. This is why he favoured changes in piecemeal fashion backed by a trial and error method to avoid the unforeseen side effects of any large scale change. Although, Popper’s approach signifies a careful setting down and articulation of clear goals in the social transformation process, the viability of piecemeal social engineering as a means of social reform is questioned. Unlike in natural science where there is the possibility of controlling and manipulating as few variables as possible, it is quite a difficult task to have adequate social science knowledge to inform us of a major and simultaneous experimentation and to be able to monitor all causes and effects as a result of the complexities of social relations.

Thus, Oseni rightly noted that, “Popper’s theory poses a difficulty in monitoring the causal nexus in social relations, particularly because of complexities in social interaction as well as the difficulty of seeing the consequences of small institutional changes when what is required for social reform depends on the magnitude of the situation.”<sup>33</sup> For as a result of the complexities of social interaction, the magnitude of the situation in Africa often requires that social reform be undertaken in a more radical manner. This radical social engineering, Oseni observes, is plausible when we consider that the causal nexus in social relations depends on the logic of the situation or the existence of real social-causal mechanisms linking cause to effect.<sup>34</sup> In other words, since social cause and effect is determined by how people’s behaviour affects the course of events, then the degree of social reforms would be determined by the consequences of social situation.

The modification we make to Popper, therefore, is to argue that social reform/engineering is not necessarily piecemeal in the Popperian sense but can be piecemeal-holistic social reform/engineering depending on the nature of the circumstances; and that from what have been said only the later can bring about true social reform in Africa. The situation, context, or circumstance in African can be used to justify the concept of piecemeal-holistic social engineering.

The situation analysis can allow social reform to be considered in terms of the magnitude of the case or reforms needed at every point in time. It is necessary that one analyses the situation that makes an agent act the way they act before one passes value judgments. Basically, the magnitude of the case would determine the scale and the speed of social engineering that is required. In this respect, we contend that Popper's approach cannot be applicable to many parts of Africa without some adjustments.

Although, Popper was emphatic that social institutions should only be altered in a piecemeal fashion so as to avoid the perils of a holistic reconstruction of a society in one sweep, he seemed not to consider that a case may require a more drastic social reform. Clearly, with the description of piecemeal social engineering that Popper gave in *The Poverty of Historicism*, it appears that as a backdrop to his work on piecemeal social engineering, there is an assumption about the kind of society in which the people whom he was addressing lived. Oseni makes this observation clear as he quotes Shearmur In a lecture, "Freedom: A Balance Sheet" Popper asserted that "Western democracies are the best of which we have knowledge...Never before was there a society in which common men were so much respected as in ours, in which there were so few who are downtrodden and insulted."<sup>35</sup>

From here, it is reasonable to admit that piecemeal social engineering only seems most sensible where societies are already deeply developed and ideals of moderate liberal political thought are well established. It also appears that the pre-conditions of applying piecemeal social engineering are that the society itself would be liberal and economically developed. The assumption here is that since the society that Popper is addressing is already developed, all that is required is the making of small adjustments and readjustments which can be continually improved upon. Consequently, if we accept this assumption that piecemeal social engineering works better in a society that is already significantly developed, it therefore implies that the piecemeal social engineering approach may not accommodate the worst-off/most impoverished and corrupt kinds of society even if they are liberal. By this estimation, piecemeal social engineering may be best suitable only for developed societies, and appears to ignore the challenges to social transformation facing less developed societies.

#### IV. CONCLUSION

In the foregoing, this research has carefully examined Karl Popper's theory of piecemeal social engineering with a view to ascertaining its implications on the increasing quest for socio-political reformation in Africa. Arguably, the

characteristic approach of the piecemeal engineer is that even though he may perhaps cherish some ideals which concern society as a whole, he does not believe in the method of redesigning it as a whole. Whatever his ends, he tries to achieve them by small adjustments and readjustments which can be continually improved upon and unintended consequences monitored.

We noted, however, upon critical examination, that Popper's one-at-a-time piecemeal social engineering may be best suitable only for developed societies, as it appears to ignore the challenges to social transformation facing less developed societies. Appropriate solutions to societal issues may depend on the social condition of every society; and a radical approach might be applicable to radical conditions. The present socio-political realities in Africa do not admit the applicability and tenability of Popper's theory in the people's quest for change. It is inadequate to handle, for instance, the recurring problems of poverty, injustice, electoral fraud, unemployment, diseases, corruption, police brutality, bad leadership, poor development of science and technology, poor education, and underdevelopment that characterizes most democratic societies of developing African nations.

This, however, does not imply our wholesale rejection of piecemeal social engineering. We argued that criticisms of Popper's theory can be addressed through making suitable modifications. They can be addressed when we deconstruct the concept of piecemeal social engineering and begin to consider the making of many changes at once. This many-pieces-at-a-time approach to social reform is what we referred to as *piecemeal-holistic reform* and as we have shown, it will avoid the difficulties Popper's piecemeal engineering encounters in social transformation in Africa. There is much, we believe, that today's classical liberals can learn about political reforms from Karl Popper but we should consider his approach critically with the idea that although we do not need to reject it wholesale, we do need to improve upon it.

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