# «Green structure» as activity and as object – implications for urban planning

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# THEME: TOOLS FOR INTER-ACTION IN URBAN PLANNING

Ustainability" has been the primary word of honour in urban planning since the UN:s conference in Rio 1992, together with "biological diversity". None of these words has a definition – they are explained in different ways in different countries, in different languages and within different social, cultural, economical and ecological situations. But, so far, a common meaning is that the number one task for physical planning is to find the criteria for building the sustainable city and that one of these criteria is to "support biological diversity".

Social, cultural and economic "sustainability" – these aspects are highly focused, in many situations, at many levels, but nevertheless, the language of sustainability derives from the realm of *ecology*. Born in the search for forces against the growing environmental threats, "sustainability" has in many contexts got its main associations in "recycling", "environmental protection" and "nature conservation" – and out from these and other associated concepts, their social, cultural and economic goals and constraints has been discussed and articulated.

The word "planning" has in many contexts negative associations to totalitarism with either socialistic or fascistic colours. Therefore, the use of "urban planning" is gradually changing into either "urban design" or "urban management or governance". This is appropriate in the view of sustainability, since the bottom-up perspectives and participation are important ingredients. "Communicative planning" is a concept for the edge between traditional urban planning (top-down) and new bottom-up-based development forces. Communicative aspects of urban development are now in focus, both in top-down and in bottom-up initiatives and processes. The use of language in "communicative planning" has got new dimensions. Communication suffers from difficulties in understanding between groups and organisations. The use of words, concepts and associations is no longer an affair within a fraternity. To develop strategies for communicative planning it may be necessary to change language and concepts. Successful concepts are more likely to be coloured by communication purposes and border-crossing than by definitions.

"Green structure" is an example of concepts, that is meaningful for professionals involved in comprehensive planning, but not for others. If the planning process is intended to be enriched by input from laymen and disciplines other than planning professions, then there has to exist an awareness of how to interpret experiences and knowledge expressed in another language than that of the professionals themselves. Furthermore, there has to be an awareness of the more or less hidden values loaded within the professional concepts.

Officially the concept "green structure" was introduced within the works preceding the new plan-and-building-law in 1994. The immediate effect was that the importance of urban green areas was stated in the law text. Another effect has been that every Swedish municipality with towns over a certain size has started to work with "green structure programs". (This work is most often carried out by landscape architects, in co-operation with ecologists). There are yet few such programmes fulfilled, wherefore it is not meaningful to analyse their language or common values in a general way. There exist though, since 1999, an official policy document, written by the Swedish Board of Housing, Building and Planning, which is likely to serve as a pattern for coming green structure programmes.

At a Swedish seminar held in April 1999 (with practitioners and researchers working with green structure issues)<sup>1</sup> it was stated that "green structure" can mean a lot of different things and that it has to be explained in each situation. It was not made clear whether this was a problem or not. A guess is that the researchers experience the ambiguity more unpleasant than do the practitioners, for which the verbal expressions within a planning situation may have low significance, as long as it is possible to negotiate and come to terms within the group of actors.

Is the term "green structure" possible to use in a communicative process, with other than planning professionals involved, when it is not understood in the same way among the professionals themselves? Or could it possibly be the other way around – that it is exactly this kind of words and concepts that is useful for compatibility between professionals, other experts and laymen? The latter implies a communicative situation as a paradox, i. e. the more ambiguous a word, the more necessary it is to outline different interpretations and the more probable the discussion would get an outcome of common understanding. At least, this is a theoretical problem worth exploring, within the task to search for compatibility between planners and none-planners.

# Background

The biotic parts of a city has in Swedish policy documents<sup>2</sup> (from state authorities) been concluded as "the green structure". The reason is obviously to make the biotic parts as a resource more "visual" for those responsible for physical change in cities, and to summarise facts and qualities of the urban green areas. The motive is mainly political. The concept being parallel to the concepts of "built structure" and "infra structure" opens up possibilities to make the green parts of the city discussed not just as separated objects on a detailed level, but in the comprehensive planning level as well. One part of the background is an increased awareness of the benefits of vegetation and the green parts of the city and an overall assumption that these parts of the urban structure are of significance for "the sustainability" of the city.

Another ambition behind the marketing of the green structure concept was to influence the basis for discussions in the municipal planning process. In order to move out from previously used detailed biological descriptions of urban vegetation, as basic data for making decisions concerning urban structure and development, a need for more comprehensive ways of regarding green objects and the green parts of the urban fabric was identified. To separate between "social", "ecological" and "cultural" aspects of green structure<sup>3</sup> was regarded as a way to compartmentalise the biological aspects, in order to create space for communication focused on the social and cultural aspects of the biological urban parts<sup>4</sup>.

Another aspect of green structure policy should be mentioned. "Green structure" as it is presented by the Swedish Board of Housing, Building and Planning<sup>5</sup> in a book with guidelines for municipal green structure programs, is closely associated to so called "green values", without any explanation. "Green values" are in the municipal planning process exposed to threats, according to the book. This leads the reader to understand green values as something strongly connected to green structure, to begin with, and furthermore, this gives bias to the concept "green structure" as involving conservation. If "green values" is not explained, the danger is that the green values is regarded as something which cannot be created, just discovered or perceived, i. e. it is only relevant for already existing features.

While "structure" is likely to approach issues of green urban areas through the language of urban design, "green values" is likely to work in the opposite direction, arguing against new built-up structures instead of integrating the green urban parts in a structural thinking. Certainly the professionals arguing for protection of green areas in the cities are not doing this with the intention to stop the city from being a city. Certainly the aim is the opposite, to make the city sustainable through making it a more pleasant human environment.

To summarise, the concept "green structure" is associated to green objects in the urban fabric, but will bear different meanings for different contexts. This could partly be explained from the different perspectives in the studies preceding the new plan-and-building-law in 1994, on one hand, and the guidelines for implementation from the Swedish Board of Housing, Building and Planning, on the other hand. While the first one emphasises the need for competence to *manage* both the heritage and urban development, the latter is more focused on the importance of *defining* green values, so that they could be protected. The purpose of this article is not to evaluate these perspectives or how they have been expressed. They are mentioned here to outline the discourse in which the concept "green structure" was introduced.

# New concepts – intentions and substance

What is discussed in this paper is mainly some implications an introduction of a new concept, in this case "green structure", can have in connection with the development of "a communicative planning process" and sustainable development. It is assumed that such a development includes a change of the language used, from a specialised professional language – which presupposes shared education, profession, interests and experiences and which is developed through an internal discourse – into a language compatible with the language used in a variety of groups and individuals, including "the man on the street" as well as different academic expertise. It is suggested that such a compatibility requires certain properties of the language, one of which is transparency.

A common way of understanding the concept "green structure" is that it describes well known and discussed phenomena, with a new name<sup>6</sup>. Though, this should not be regarded as the whole truth. The intentions behind using new concepts may be vague, but nevertheless still exist. It may be that the most powerful concepts are the vague ones that have different meanings in different contexts and different meanings according to its user. These concepts can generate needs for new arguments and motives out from which a discussion may emerge with references to actual and current topics.

Another important aspect of new concepts are their double loading with, on the one hand, old inherited meanings and on, the other hand, new added ones. One common interpretation of "green structure", which I have already mentioned above - is as a concept collecting all green areas, land, vegetation and water in a city. This interpretation refer to a collection of physical objects. This could be understood as the total sample of land with (or with potential for) vegetative cover or water areas, available within a city. Another use of the concept is to highlight the way these areas fit into the urban fabric and are linked to one another and to other kinds of urban open space and constructions. This could be called the green structure. Whether one of these two explanations are chosen or not, it can be claimed that the two explanations have different effects when used in e.g. a planning situation. In the first case focus is on the physical qualities related to each object (e.g. a garden or a park or a tree). In the last case focus is on functional and physical relations. In the first case the meaning of the concept is based on convention, while in the last case the meaning is created in the actions emerging through the use of this new word.

To be aware of these two ways of understanding the word "green structure" is not the same as to be forced to choose one of the perspectives exclusively. Even if the first is about the material, the result of a structuring activity, and the latter about the structuring activity itself, i.e. *how* the fabric is made, these two are impossible to exclude from each other.

# Communicative effects of the green structure concept

There are always reasons for using a new word instead of old words. These reasons – the hidden values and meanings – are not easily made visible. These hidden values and meanings

plays a unifying role for the users of the new word and plays thereby a separating role, against those who do not use this word. This is a common problem with new words, but there is always specific circumstances associated to each of them.

As for "green structure", this concept appears to have been easily and rather quickly accepted and adopted among landscape architects and landscape planners in Sweden. Other related professions, like architects, urban planners and ecologists seem to prefer other concepts, but is likely to accept the use of the word in a planning situation when it is explained and understood out from a certain physical context and a certain planning problem situation. The man on the street probably does not understand the word at all, unaware of the context in professional language and unaware of the political planning context. This does not mean that e g the landscape architect and the layman could not share visions, goals and ideas for development concerning green structure issues, but it mean that of the two parts supposed to be communicating, one acts as a teacher and the other as a pupil, which is not self evident a practicable way to fulfil the vision of "communicative planning".

Another aspect which could be mentioned is the role of different mother tongues. Apparently "green structure" means something to the members of the European network "Green structure and urban planning"7. It could be discussed if this implies a common understanding of the concept or if there are other reasons for choosing this concept to unify the members of the network. Is the concept "green structure" connected with values that other similar concepts are not? Do we mean the same with "green structure" coming from different countries? In the Scandinavian countries "green structure" have been more or less accepted within the planning process. On a European level concepts like "urban greening" or "urban forestry" are often used as synonyms to green structure, but at the same time have connotations to planting and management respectively8. In American literature on urban planning and design I have not found "green structure" used. The nearest concept used is "greenness". Ironically this concept is associated with planning and design tasks where greenness are used for structuring urban open space. Areas, objects and places are connected to each other in "greenness", i. e. green elements are used to structure urban space in a certain way, parts has been connected to a whole by means of vegetation. So even if the concept "green

structure" is not used, this seems to be a way of understanding this concept that fits with the lexical explanation. Green structure understood as greenery (used as above) refers to a verb, an activity with the purpose to structure, even if "the greenery", when built, is a noun, a physical result of the structuring activity.

A third unifying/separating aspect of the new concept "green structure" I discovered in an educational situation with landscape architect students. In Alnarp the second year of studies contains planning and design of a new housing area. In their presentations students were told to show simplified diagrams showing "built structure, traffic structure and green structure" for their proposals. Interesting enough, the green structure descriptions was of two distinctly different categories. One group had used "green structure" as a mean to divide the whole residential area in smaller parts, connected in certain ways, at the same time providing recreational space to these parts. The other group had not carried out any explicit structuring activity, laying out vegetation and green space in the area. Certainly these elements were connected, one way or another, to houses or roads, but did not seem to have consciously structured the area by means of the green elements. Neither was this condition described as a standpoint, but seemed to be just an unaware consequence of the design process. The students who presented the earlier kind of proposals focused on the structuring function of green areas in their presentations, while those who had made the latter kind of proposals were more occupied with describing the character of the vegetation and the function and thought out use of different green areas, seen as objects. Nonetheless there was no difference in the student's use of the word "green structure", relating all proposed green elements to the whole. Even more interesting is the fact that the contradicting use of the concept "green structure" was not noticed, or at least not paid attention to, by the teachers. All students and teachers evidently shared a experienced certainty concerning understanding of the green-structure-concept, which did not correspond to an actual unambiguous use of this concept.

This example highlights a significant difference in understanding and use of the concept "green structure". Some students make use of the part "structure", while the others just use the part "green". "The green" is understood, by the latter, as being the same as "the green structure", overlooking that they had not used vegetation and green space with a structural intention, and thereby hardly could have proposed any green structure, just a pattern of green patches, connected or not. This was just a coincidental discovery, but it casts some light on a difference in understanding the concept "green structure" that could lead to serious problems in communication. This is only true, however, as long as you believe in the symmetry one word – one definition or one concept – one phenomenon.

For communicative purposes words with an interrelationship such as "structure" and "pattern" are of special interest, since they could be very useful in distinctions between closely related concepts. There are other such pairs of words, with an analogous interrelationship, relevant to green structure issues. In Italian there is, e.g. the pair of words meaning landscape - territorio and paisaggio9. With both these words in your vocabulary, the risk is little that one of the words is misused as if it meant the other one. With just one of these words in function, the risk is obvious that its use is not limited to the original meaning (in this case there are several "original" meanings), but it is used whenever there is need for a word for landscape. Another example is the Aristotelian pair of words for the city - urbs and civitas10. The difference becomes obvious if you compare "a living city" with "a beautiful city". For the time being the discourse on urbanity is claimed to move from approaches based on physical situations (urbs) approaches based on peoples activities and movements (civitas). (This shift in direction ironically has started an intensified discussion about urban design and physical settings<sup>11</sup>.) To keep the use of *both* structure and pattern to describe the concept "green structure" will cause, on one hand, misunderstanding, but could on the other hand widen the concept and make it more "compatible" with different associations to the concept. To have one concept carrying not one but more meanings (instead of trying to establish the borders between different interpretations, defining them with different concepts) could turn out to be a possible tool for the emerging change into communicative planning. The point in referring to pair of words with different meaning, is not to suggest a separating strategy of language, but a unifying. The importance is not in how many words are used, but in how many meanings, ideas and intentions are allowed to be handled in a dialogue.

# The word "structure" - a deliberate choice?

One reason for using the concept "green structure" was to match the concepts built-up structure and infra structure. This choice has value-laden underpinnings and is interesting because of its misleading meaning. Using this word you accept the three collaborating urban structures, one for the buildings, one for the technical communicative systems and one for the green. At the same time you repress that "the green" maybe is not a structured but just a coincidental pattern.

structure: the way in which a whole are made up of its parts (Websters)

You could use this meaning of structure (from the lexicon) about buildings and roads but not immediately about vegetation and green areas. A structure needs to exist as a thought before you could build it. When it is built, a pattern is showed, but this pattern is not the only possible one out from a thought structure. A pattern is visual, a structure is not necessarily so. One structure could result in several patterns. In fact – a structure describes a process (to structure = to make a whole of parts) while a pattern describes a result, but not necessarily a result of a structuring process, it could as well be the result of a sequence of structures (in a spatial or a temporal sense), or it could even be the pattern of trash, the left over, not structured elements.

When we use the word "structure" in daily talk we usually mean not the structure but the pattern, the visual result of a structure. What we have done is a *synecdoche*<sup>12</sup>, e g we have let one concept play the role of another concept. We have let the *verb* "structure" play the role of the *noun* "structure". In stead of the structuring activity we talk about the result of this activity. This is of very little practical importance as long as there has occurred a structuring activity. It is when we use the word structure in spite of that no structuring activity has taken place, that the use of this word becomes dubious, at least as long as we are not aware of the replacement of one meaning with another.

There is something that seems to be basically wrong with using "green structure" to include the vegetation and green space for a town or city. Small parts could have been structured, most often not with connections to each other, other parts are solitary objects, coincidental or planned, but not structured. The city level: If we argue that green structure is a concept for describing urban green on a city level, then we argue that there is a structure, in which every part has a special evident relation to the whole. This is not true for most parts of the urban green.

The district level: If we argue that green structure is a concept for describing urban green on a district level, then we argue that urban green is structured on a district level, with specific relations between the parts and the whole. This is not true for most parts of the urban green. The common situation is that "green parts" has their structural relationships not with other green parts but with buildings or roads. In a housing area, as one example, there could be a row of street trees physically connected to hedges that surround gardens. This connection has not a structural character though, since the street trees structurally is connected to the street but the hedges are connected to the garden and the house in the garden. The size and the location of the gardens is decided from a structure with the road as the spine and a certain amount of houses with gardens along it. The urban structure, on a district level, most often includes built up elements, like roads and buildings, and biological elements like trees and gardens. To separate a "green structure" seems pointless.

The object level: Certainly it is possible to use "structure" to describe the inner organisation of an urban element or object. A section of a road shows how the visible linear character is built of a three dimensional body of different material in certain order. A plan or a section of a house shows in a similar way the design and the spatial structure. But these inner structures are not called "built up structure" or "infra structure", but spatial structure or material structure. Corresponding you could say "vegetation structure" about the organisation of elements in a park or a woodland.

It seems like "green structure" has no level of understanding that corresponds to a physical level in the urban environment. Either it is to small or to wide or refers to nonstructural features. This is not a problem as long as you talk about structuring activities, which could be carried out in whatever scale suitable, but it could explain some problems occurring when using "green structure" as a noun.

# The concept in the municipal context

To make urban green visible and to encourage increased attention to urban green space in the planning process, "green structure programmes" are now being carried out in Swedish municipalities. It is probable that this work will follow the instructions from the Board of Housing, Building and Planning in which the "green structure programme" is regarded as a reference material for comprehensive planning. The green structure programme, in turn, should focus on identification of threats, possibilities and estimations of consequences from theme maps, which analyse values e. g. for "recreation, biological diversity, identity and urban design"<sup>13</sup> and are chosen from a description of "visions and goals".

The motive for "green structure programmes" has been partly to propose ways of includind and demonstrating existing knowledge and competence in municipalities (as it is described in the document cited above), and partly to develop its strategic intentions to conserve and increase the social, ecological and cultural functions of green areas. These programmes are not proposed to be regarded as official plan documents but as a base for continued work. As such it is not exposed to judgements within the political organisations or exhibited within ordinary Swedish planning procedure. This will likely mean that the language about and within these programmes will develop and be established in the corridors of civil servants, long before their values and intentions will be confronted to either ordinary people or experts within other areas than landscape and urban planning and design.

The municipal documents preceding the green structure programme was called "green plans" and was made by quite a lot of Swedish municipalities in the 80:s. The values and intentions were to a large extent the same as for the green structure programmes, with one exception. The difference is mainly that the green plans (which were not plans either, from a legal point of view) were treating only the areas owned and managed by the municipalities, while the ambition in the green structure programmes carried through has been to take all ground, vegetation and water into consideration, independent of ownership. This development has widened the vocabulary about urban green elements, in the planning process, from solely concerning ground owned by the municipality, "formal green structure"14, to include everything which for qualitative reasons could be regarded as parts of a green structure, "actual green structure"15.

By changing perspectives from "formal" to "actual", the use of the concept "green structure" has changed the conditions for the use of urban green parts as a resource. Even claimed as misleading, in every possible use, the concept has been effective in a certain sense. It has developed urban planning to include the morphological aspects of the urban landscape. Earlier no maps existed where e g private gardens could be identified. Therefore no plan document could handle areas with garden qualities. Natural areas has, if owned by the municipality, been included in "park areas", whereas no plan document could handle areas with nature qualities. Left over space, as protection zones near roads, noise and wind shelters or areas with free growth (e.g. abandoned industrial sites) has not been mentioned for their properties as green space but as "road areas" or "industrial areas", i. e. dependent of the recent or earlier interest for exploitation. With a shift in language from "formal" to "actual", urban ground could more easily be understood as a resource, regardless of the current market interests.

To morphologically describe the urban landscape is a way to widen the concept "urban green", making vegetation visible as a resource, as area, volume, biomass and diversity. The latter has above all concerned biological diversity, but this is evidently far from the only kind of diversity significant in urban settings. Other categories, more connected to activities and use, are the scales of open-closed (sun-shade), dense-thin (possibilities to stay within), private-public, isolated-connected, etc. These morphological categories approach the traditional language of urban design and town planning, pointing at possibilities to include living elements in the language of structural and building activities, instead of these living elements being associated with a negative language,"the second", "the non-built"16. It has to be realised though, that these supposed effects on language do not come from the choice of "green structure" as an inclusive concept. They come from the action to conclude and the action to name. Here again we can see the result of synecdoche. When actions transform into products, the visible fills out the panorama and the intentions implicit in the actions tend to be overlooked.

# Both – and – perspectives, the way to manage an incongruous concept

What I have discussed in this paper is some contradictions implicit in the introduction of the concept "green structure". The obvious advantages are connected to the name for the included urban green parts as "a whole". On the other hand this very name is misleading, diffusing the difference between contents and structure, pattern and structure, and between structure (noun) and structure (verb). It has been argued, though, that it is not self evident, from a communicative point of view, that unambigous, clearly defined words are preferable. It may be that a discussion on words can be a key to a discussion of intentions, which could be a rich base for discussions about future actions.

To use ambigous interpretations could be seen as a development away from a use of language with scientific connotations<sup>17</sup> in urban planning and management. This means to look beyond analythic definitions and include synthetical intentions in the planning language. It could be argued that this is exactly what is being done by inviting all sorts of stake holders and citizens to take part in urban planning, arguing and questioning. One answer to this is that it is not enough. It is not enough to collect peoples interests and experiences in new added categories, while the planning process itself remains uninfluenced. A use of ambigous concepts may challenge the very habit of cathegorising and thereby also the objectification.

To create the best possible object for people to live in, was the basis for "the garden city"<sup>18</sup> a hundred years ago. Since then we have experienced great changes in "spirit of the times" - of life style and the society/individual dimension. While the "garden-city-model" of living was accompanied with the modern project of society, "the sustainable city" is accompanied with postmodern actions, projects not associated with society but with individuals and groups. "The sustainable city" is not a question of designing the ideal housing area, multiplying it to be a city. If earlier Utopias have contained beautiful model areas, ordered in a harmonious way in a sketchbook, the new Utopias are not defined by objects. Symmetry and hierarchy will no longer be relevant to success. Instead of the structure, interaction of structures will be of great importance, not likely due to their resulting visual patterns, but as means to ease urban life in a number of ways. The pedestrian life of urban citizens is slowly gaining more interest after some decades with planning dedicated mainly to car traffic. This affects urban design, e g the human scale and the visual expressions on pedestrian level (including or not including green elements) become more financially interesting. This in one of the reasons, for the time being, for arguing that "green structure", if it is used, should be understood as an activity, a verb.

"The structuring activity", connected to urban environment and including green elements, has far more layers than have been discussed here. The most important aspect, one easily and often forgotten, is to decide the limits for structuring activities. Rather than just talking about "urban structures" (including green structure) it is interesting to investigate the relationship between structures and dynamics (understood as structure-breaking activities) in an urban context. Cultivation and plantation are examples of "green structuring" which sometimes could be structure-breaking activities, but other times part of structuring activities (in some respect to hinder dynamics). This example shows that the importance of a critical view, not only includes awareness of the significance of words used and solutions proposed. It also includes an awareness of the intentions behind – the "why-question".

To "save the green values" is a difficult task without identifying what these green values are. It is true that Swedish park directors and landscape managers are given very little space and publicity compared with other actors in urban planning and development. This is not a sign of that "green values" are not important and lack interest. (The opposite is shown every time a tree has to be taken down in an urban area). It is a sign, though, of a lack of language to differentiate, describe and visualise the significance, functions and values of green structure. This language is yet to come and needs to be including and characterised by a both-and perspective, not a neither-nor perspective (even if this is a paradox), both what concerns the contents and its pattern and what concerns the structure.

#### Notes

- 1. Lindholm, G. et al, 1999
- 2. SOU 1994:36,
- 3. SOU 1994:36
- 4. In a study of "green plans" from the late 1980:s (Göransson & Svensson, 1994) it was noticed that structural ambitions were connected to ecological arguments.
- 5. Swedish Board of Housing, Building and Planning, 1999
- 6. Accordingly "green structure" is not seldom used as a synonym for parks, public space, green areas or else, regardless of the part "structure" – see e. g. Florgård, 1999.
- A COST Action programme 2001–2005, with the aim to initiate joint projects between the member countries and to strengthen links between different disciplines conneted to green structure as an urban planning task.
- Among 72 contributions to Proceedings from the Urban Greening and Landscape Architecture research symposium, in Copenhagen 1999, 2 titles contains the word "Urban greening", I "Urban greenery", I "Green structure", 6 "Urban forestry" and 2 "Urban green space", referring to a "whole", the rest focusing specific parts of the presumed whole.

- 9. Seddon, G., 1994
- 10. Marcus, L., 1998
- 11. Hall, P., 1999
- 12. Ramirez, J. L., 1997. Ramirez has more thoroughly outlined his approach in "Skapande mening",1995. His "action oriented humanistic theory" has a base in Aristotelian rethorics and has been shown useful for dialogue purposes in general, but with a special reference to the urban planning settings. Ramirez Swedish concept is "humanvetenskaplig handlingsteori", which in English will be "action oriented humanistic theory", according to Gustavsson, E, 2001.
- 13. Swedish Board of Housing, Building and Planning, 1999
- 14. Lundgren, E., 2001, p53
- 15. Ibid.
- 16. Lövrie, K., 2001
- 17. "This "scientific language" could be traced to different sources – Comte's scientific sociology from the 18:th century is one of those, who have behind them Decartes and further behind the greek heritage – the either-or perspective – of which Ramirez has a deepend disussion (in Swedish) 1995.
- 18. Howard, E., 1898, Garden Cities of To-Morrow



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