

# Legitimising (Note 1) Alternative Voices in Sustainable Development (SD) Discourse: The Case of Scientist Rebellion (SR)

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## Abstract

This paper investigates the language of legitimation considering a number of open letters published by the pressure group Scientist Rebellion (SR) to address sustainability issues. The questions this paper seeks to address include the following: Which legitimation strategies did the authors of the open letters examined make use of to buttress their arguments? Did these resources serve a legitimatory function, a delegitimising function against adversaries, or both? Are the open letters under investigation characterized by legitimising mechanisms that are specific to this genre? Using van Leeuwen's theoretical framework, a number of legitimation strategies are identified, which were put in place by SR representatives to raise awareness of questions concerning sustainable development (SD) and to seek public consent in relation to their proposals.

**Keywords:** Critical discourse analysis, Legitimation, Sustainable development

## 1. Introduction

In a summit held in New York in 2015, the United Nations (UN) launched the *2030 Agenda for Sustainable Development* with a view to taking “the bold and transformative steps which are urgently needed to shift the world onto a sustainable and resilient path” (UN, 2015). Among other things, the Agenda identified 17 objectives – referred to as Sustainable Development Goals (SDGs) – to address global, social and environmental issues. SDGs were intended as a wake-up call for policymakers and institutional representatives at national and international level to actively commit to tackling problems in areas of critical relevance for humanity and the planet. In the view of the UN, SDGs were “integrated and indivisible, and

balanced the three dimensions of sustainable development: the economic, social and environmental” (UN, 2015, p. 1). Nevertheless, the 2030 Agenda became the subject of criticism as time passed by. Objections were levelled at the UN, particularly because many governments fell short of meeting these objectives. As a number of scholars have argued, the political impact these targets have had on institutions and policies has been largely discursive, i.e., they have only affected the way actors understand and communicate about sustainable development (SD), (Biermann *et al.*, 2022). Among those voicing concern over SD policies were the members of Scientist Rebellion (SR) a worldwide group of environmental scientists whose mission is to expose the reality and severity of the climate and ecological emergency by engaging in non-violent civil disobedience (Scientist Rebellion, 2022a). On occasion of the UN Summit that took place in May 2022 in Indonesia, they issued an open letter urging the UN “to drop the redundant and unhelpful ideology of sustainable development” (Scientist Rebellion, 2022b, p. 1) on account of the failure of the SDGs. This was just the last of a series of open letters delivered to institutional representatives, governments, and policymakers to raise awareness of issues concerning SD. To prove their points, SR resorted to a number of discursive practices that are worth exploring to appreciate how they sought to validate their theories and gain public support.

In view of the above, this paper investigates the discourse legitimising SR demands and the resources employed by SR scientists to foreground their positions. The questions we seek to address include the following: Which legitimisation strategies did the authors of open letters make use of to buttress their arguments? Did these resources serve a legitimatory function, a delegitimising function against their adversaries, or both? Are the open letters under examination characterised by legitimising mechanisms that are specific to this genre? To answer this and other questions, a discourse-oriented analysis will be conducted drawing on van Leeuwen’s theoretical framework concerning the way discourse constructs legitimisation for social practices in public communication (van Leeuwen, 2007). We deal with a crucial use of language in society – namely the process of legitimisation – investigating the discursive structures through which an action, an argument or an event is endorsed. Van Leeuwen’s analytical model serves the purpose of this research, in that it identifies the way legitimisation is realised through “specific linguistic resources and configurations of linguistic resources” (van Leeuwen, 2007, p. 92). This study will be structured as follows: An analysis of the relevant literature will be carried out (Section II), followed by some methodological reflections (Section III), a discussion of the main findings (Section IV) and some concluding remarks (Section V).

## 2. Previous Research

The way legitimisation is generated has been examined at length in Discourse Analysis, particularly in relation to the public sphere, which is the concern of this paper and has been defined as the space in which legitimisation can take place (Habermas, 1988). In Critical Discourse Analysis (CDA), it has been argued that people are constantly concerned in social life, in what they say or write, with claiming or questioning the legitimacy of actions which are taken, procedures which exist in organisations, and so forth. As a result, textual analysis is a significant resource for investigating legitimisation (Fairclough, 2003) to understand the

way speakers explain why they did or do something and why their action is reasonable or socially accepted (van Dijk, 1998). Legitimation routinely draws on recurring argumentation schemes in order to persuade the public of the acceptability or necessity of a specific action or policy (Wodak, 2021), thus influencing public discourse (Dayrell, 2019). Discussing the implementation of SDGs, Ala-Uddin has argued that the general public accept that the government is the legitimate authority to agree, sign and enforce various policies on their behalf, in spite of the fact that most people may not fully support them (Ala-Uddin, 2019). In a similar vein, Machin and Liu (2023) have looked at the SDGs in detail, showing how communication plays an important part in terms of rhetorical power and legitimation, therefore becoming necessary for their take-up by governments, institutions and organisations (Machin & Liu, 2023). Drawing on Fairclough, Cummings *et al.* (2018) have also focused on SDGs, arguing that the main themes within the SDGs take the form of dominant construals, the statements of which are presented as truths and normative in character (Cummings *et al.*, 2018), thus discursively legitimised. More generally, different lines of investigation in legitimation studies can be observed, making the field increasingly diversified in terms of methodologies (Björkqvall *et al.*, 2019). As previously observed, for the purposes of this paper reference will be made to van Leeuwen (2007) who – elaborating on van Leeuwen and Wodak (1999) – established a framework for analysing the language of legitimation through four major categories: authorisation, moral evaluation, rationalisation and mythopoesis. This framework will be discussed in greater detail in the following.

As shown by the above overview of the relevant literature, legitimation in the context of SD has attracted significant attention. Yet the way alternative voices have framed arguments to persuade the general public of the validity of certain views has been given little consideration, even more so considering that, in the context of SR, scientists challenge the theories of their peers. Additionally, the fact that they use open letters to encourage the general public to take action further complicates the picture. Open letters as a genre have been the subject of extensive analysis, for example in relation to legitimation patterns constructed against the backdrop of emergency situations (Qing, 2022). Nevertheless, to the author's knowledge little to no research exists investigating the way scientists in the SD domain legitimise their arguments by making use of open letters. This is a research gap this paper attempts to fill.

### 3. Methodology

As noted above, this paper will conduct an analysis on a number of open letters issued by SR representatives to decision-makers and the public worldwide. SR is an organisation established in September 2020 as a sister of the highly controversial protest group Extinction Rebellion, made up of “scientists, united against climate failure” (Scientist Rebellion, 2022a, p. 1) with branches scattered throughout the world attending to issues having both national and international reach. SR members argue that, in their capacity also as academics, they have implicit authority and legitimacy (note how the concept of legitimation comes to the fore again) so they are well placed to stage a rebellion (Scientist Rebellion, 2022a). SR constitutes an interesting case for discursive investigation. The members cannot be defined as mere activists, but they are not sceptics of SD, either. They are a heterogeneous group with considerable scientific expertise supporting environmentally-friendly policies.

SR's alternative voice is channelled, among others, through open letters, defined as letters which are either addressed to the public or to a specific person – e.g., a politician – but released in a public forum (Picello, 2018). Open letters are intended for a named individual as the primary addressee, yet they reach a wider audience as the secondary addressee. Most importantly, they are frequently employed to stage a protest against a named individual, usually a person holding public offices. This is precisely the case of SR: its members make use of this medium to construct a counter-discourse and question dominant views about SD by making their concerns public.

The dataset considered here consists of 10 open letters (roughly 6,100 tokens) issued by SR and delivered to different institutional representatives between April 2021 and May 2023. They were selected manually from different online sources – e.g., specialised websites, forums and blogs discussing SD strategies and initiatives – as these open letters were given little attention in the media. Table 1 provides more specific information about the dataset:

Table 1. Open letters issued by SR

	Title	Date of publication	Addressee
1	None	N.A.	The Federal, Walloon, Flemish and Brussels-Capital governments
2	Stop Attempts to Criminalise Nonviolent Climate Protest?	April 2021	The general public
3	Scientists to President Biden: Follow the Science, Stop Fossil Fuels	April 2022	President Biden
4	Open Letter to the Rector of the Norwegian University of Science and Technology (NTNU)	May 2022	The Rector of the Norwegian University of Science and Technology (NTNU)
5	People Will Suffer More if Professionals Delude themselves about Sustainable Development	May 2022	The United Nations (UN)
6	The Climate Scientists' Open Letter to Italian Politicians	August 2022	Italian politicians
7	A United Academia Can Fight Climate Failure	September 2022	The general public
8	Scientist Rebellion Letter: We Are Not Safe!	February 2023	The general public
9	Addressing The Elephant in the Lecture Hall: Climate Education Now	May 2023	The Boards of Directors of Dutch Higher Education Institutions
10	Open Letter to the American Geophysical Union	December 2023	The American Geophysical Union

Source: Own Elaboration, 2023.

It can be noted that, while the content of these letters may vary, the topics discussed – climate change, climate education, and the use of fossil fuels – are part of the broad category of SD. In most cases, the addressee is clearly specified (Letters No. 1, 3, 4, 5, 6, 9, 10) while in other cases it is the public in general to whom the letter is directly addressed (Letters No. 2, 7, 8). Save for Letter No. 1, all the open letters in the dataset include a title and the date of publication. It is also for this reason that the structure changes slightly, i.e., at times the opening salutations or the complimentary closing cannot be provided. These letters were selected considering only those signed by SR or its representatives, without taking into account the ones where SR only provided its endorsement.

The next section outlines the legitimization strategies employed in these letters to promote SR theories and raise awareness among the public at large.

#### 4. Discussion

Refining the theoretical framework constructed in van Leeuwen and Wodak (1999), van Leeuwen (2007) identified a model for investigating the language of legitimization in public communication. He argues that four broad categories of legitimization exist, namely authorisation, moral evaluation, rationalisation and mythopoesis. Each category also contains a number of subcategories, to which reference is made in this Section. As these categories can be used to legitimise, but also to delegitimise, it might be worth examining how SR chose to issue open letters to construct legitimization or delegitimation.

##### *a) Authority Legitimation*

The dataset contains many instances of authority legitimization, namely “legitimation by reference to the authority of tradition, custom, law, and/or persons in whom institutional authority of some kind is vested” (van Leeuwen, 2008a, p. 107). This should come as no surprise, in that SR members are mostly scientists who need to substantiate their claims by referencing established sources. Expert Authority Legitimation is a form of argumentation to be contrasted with causal argumentation in that it questions the pragma-dialectical rule of logical validity (Reisigl & Wodak, 2016, p. 50). In this sense, recourse is frequently made to the subcategory of expert authority, whereby legitimacy is provided by expertise rather than status (van Leeuwen, 2008a). The Intergovernmental Panel on Climate Change (IPCC) is often mentioned as an expert authority:

Table 2. Examples of Expert Authority Legitimation

11	<i>The Intergovernmental Panel on Climate Change (IPCC)</i> released its latest in a series of dire warnings about the unfolding climate catastrophe.
12	The <i>report from the scientific panel</i> outlined a litany of significant impacts that are currently unfolding.
13	<i>The latest report of the Intergovernmental Panel on Climate Change</i> leaves no room for doubt or delay.
14	<i>The IPCC report highlights</i> millions being impacted by climate change induced food insecurity and water scarcity.
15	<i>As the IPCC report indicated</i> , the scientific evidence is overwhelming that we must act now - we simply do not have time to waste.
16	The scientific consensus on the severity and the causes of the climate and ecological crisis is well established, <i>as documented in the IPCC report</i> .

Source: Own Elaboration, 2023.

Referring to the IPCC is intended to prompt action and raise awareness of the seriousness of the situation when it comes to sustainability issues. In these statements, verbal and mental process clauses are mostly employed, usually with the expert as, respectively, Sayer and Senser (Halliday, 1985). The IPCC is regarded as authoritative in that it is a body supported by the UN member states. There have been attempts to delegitimise this institution by characterising it to be in error simply by virtue of its members and their beliefs (Pielke, 2019). Nevertheless, it can be argued that choosing the IPCC as an expert voice can legitimise SR's concerns with the environmental question. In other words, the institutional authority of the discourse validates the credibility of the message (Reyes, 2011) justifying the possible actions taken. In the same vein, the open letters contain references to the UN – another established authority, albeit one that is increasingly facing a reputation crisis – and its Secretary-General António Guterres, though in this case this reference seems to delegitimise the SD policies adopted so far:

Table 3. Examples of Delegitimation of an Expert Authority

17	<i>The United Nations has reported</i> non-existent progress to meet the Sustainable Development Goals (SDGs) on reducing poverty and environmental destruction.
18	<i>General António Guterres was right to state</i> that humanity is “moving backwards in relation to the majority of the SDGs.”
19	<i>UN Secretary General Antonio Guterres has proclaimed</i> that humanity is facing “collective suicide.”
20	<i>The evidence from the UN's</i> own reports shows clearly that it [solving poverty and environmental destruction through technology and capital] is merely a convenient myth.
21	<i>The head of the United Nations Office for Disaster Risk Reduction</i> (UNDRR), Mami Mizutori [argued] that “raising the alarm by speaking the truth is not only necessary but crucial.”

Source: Own Elaboration, 2023.

The attempt to delegitimise the SD strategies currently in place is even more evident because, in addition to mentioning the expert in which the authority is vested – i.e., the UN and its Secretary-General – their statements are frequently quoted to further stress the gap between their commitments and the unsatisfactory outcomes produced.

In addition to appealing to institutional authority, SR members made sure to reference academic experts in their open letters in order to back up their arguments:

Table 4. Academic Evidence Included in the Open Letters

22	We are living in times of both climate and ecological emergencies ( <i>Trisos et al. 2020, Richards et al. 2021</i> ).
23	The scientific background of these emergencies has been provided by <i>tens of thousands of scientists</i> around the world (Ripple <i>et al.</i> 2020, IPCC 2021, IPBES 2019).
24	There is a moral obligation to “provide <i>leadership</i> , and engage in <i>advocacy</i> and <i>activism</i> ” to help drive transformative system changes ( <i>Gardner et al. 2021</i> ).
25	Travel makes up one of the largest parts of academia’s carbon footprint (Klower <i>et al.</i> 2020).
26	<i>11,000 scientists</i> published a manifesto in 2019 to clearly warn humanity of any catastrophic threat and to “tell it like it is”.
27	<i>Senior academics</i> accept there is no plausible pathway to 1.5 °.
28	<i>The Russell-Einstein Manifesto</i> , published in 1955, clearly stated: “Remember your humanity and forget the rest”.

Source: Own Elaboration, 2023.

Looking at some of the excerpts above, we can also note that legitimation through academic evidence is at times sought by aggregation ([23] and [26]), a subcategory of assimilation (van Leeuwen, 1996) whereby the authority is referred to in terms of statistics in order to gain consensus (e.g., ‘tens of thousands of scientists’, ‘11,000 scientists’). Alternatively, impersonalisation is also used, so social actors are represented by abstract nouns (‘leadership’, ‘advocacy’ and ‘activism’ in [24]) as well as collectivisation, according to which experts are collectivised to signal agreement (‘senior academics’ in [27]).

More generally, direct or indirect speech is used, as writers seek to make sure that the audience is aware that they are evoking someone else’s words (Reyes, 2011), i.e., in this case by referring to expert authority. This process has also been regarded as an instance of evidentiality, namely the reporting of what has been heard from others specifying the source of information (Garretson & Ädel, 2008). By assembling a multiplicity of sources in support of certain arguments, “the reader is positioned to regard them as highly credible” (Martin & White, 2005, p. 116).

The open letters drafted by SR members also contain – albeit to a limited extent – instances of authority of conformity, namely legitimation sought by acting according to what others do:

Table 5. Examples of Authority of Conformity in the Open Letters

29	<i>There is already a long list of universities</i> in the United States that support activism against social injustice and inequality.
30	<i>More experts in Disaster Risk Management abandon</i> the idea that an expansion of economic activity is always a necessity.
31	<i>Universities in France and Spain have already</i> taken the necessary steps to introduce a mandatory climate course.

Source: Own Elaboration, 2023.

Only one case of impersonal authority – i.e., authority sought by referencing rules or legislation – was found in the dataset. While not relevant in statistical terms, it constitutes a further tool for delegitimation, by referring to the binding character of the ruling lodged by an established law-making body according to which another entity – Belgium’s government in this case – has been negligent in relation to SD policies (Table 6). No examples of role-model authority were found.

Table 6. Example of Impersonal Authority

32	<i>The Brussels Court of First Instance</i> condemned our federal government as well as all three regional governments, for their negligent climate policy.
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Source: Own Elaboration, 2023.

To conclude the section about authority, it bears stressing that time can also play a part in legitimising views and gaining public consent. Authoritative timing practices can be adopted to establish certain social principles. In the words of van Leeuwen, a number of semiotic resources exist in English discourse for representing the timing of social practices (van Leeuwen, 2008b). Among them there is the time summons, whereby timing is depicted as being imposed by an authoritative summons. One subcategory of the time summons – which is employed extensively in the open letters examined – is the disembodied time summons, by way of which time itself is seen as a more intangible form of authority and a form of inescapable fate (van Leeuwen, 2008b):

Table 7. Examples of Disembodied Time Summons

33	The world is demanding change and <i>it is time for</i> a bold response.
34	<i>The time has come</i> to move from publications to public actions.
35	2021 <i>is a critical year</i> for climate governance.
36	We simply do <i>not have time</i> to waste.

Source: Own Elaboration, 2023.

In our sample, the disembodied time summons – which has always been referred to as appealing to time pressure (Hansson & Page, 2023) – is mostly used to legitimise new actions promoting urgent sustainability issues that can no longer be postponed. In other words, this means claiming that something must be done before it is too late (Hansson & Page, 2023).



Referencing deadlines should prompt decision-makers to act while raising awareness of the issues at hand among the public.

*b) Moral Evaluation*

Legitimation sought through moral evaluation is based on moral values. Unlike authority, moral evaluation is associated with specific discourses of moral principles, and can be constructed by means of attitudinal lexis. Three forms of moral evaluation exist, namely evaluation, abstraction, and analogy. In our dataset, examples concerning evaluation and the relevant use of evaluative language abound when it comes to the urgency of taking action to save the planet:

Table 8. Examples of ‘Attitudinal’ Moral Evaluation

37	In Italy and in the Mediterranean the situation could be even more <i>critical</i> .
38	Climate and weather phenomena <i>impact fragile</i> territories and cause <i>damage</i> at various levels, besides <i>strongly and negatively</i> affecting economic activities and social life.
39	The impacts of climate change are <i>many and severe</i> .
40	The worldwide increase in harm from human-caused environmental mayhem demands <i>an urgent</i> refocusing of international aid and cooperation.

Source: Own Elaboration, 2023.

The use of evaluative adjectives (e.g., critical, severe, urgent) indicates the gravity of the situation and invokes moral values, constructing the legitimacy of the measures put forward by SR in order to drive change. Evaluation can also take the form of normalisation, i.e., a set of discursive strategies which are recontextualised as part of wider forms of actions designed to change the norms of social conduct and to gain legitimacy (Krzyżanowski, 2020). Normalisation is “the capacity to ‘naturalise’ ideologies, i.e., to win acceptance for them as non-ideological common sense” (Fairclough, 2010, p. 30). What is normal is therefore also regarded as naturally taking place, frequently impossible to stop because part of the natural order. Accordingly, these processes are legitimised by referring to time or the concept of change:

Table 9. Naturalisation in the Dataset Examined

41	<i>Increasingly severe heat waves, droughts and natural disasters are occurring year after year</i> , not once every century or decade. Sea levels may rise by several metres this century.
42	Due to climate inertia, the phenomena we see today <i>will be inevitable</i> in the future.
43	This requires global emissions to peak before 2025 and be reduced by 43% by 2030. <i>Even that would likely lead to 1.5 °C being exceeded within the next ten years</i> .
44	Considering our current emissions pathways, <i>the temperature increase could reach 1.5 °C by 2030</i> .

Source: Own Elaboration, 2023.

In relation to abstraction, it is “a straightforward description of what is going on rather than an explicitly formulated legitimacy argument” (van Leeuwen & Wodak, 1999, p. 108). Through abstraction, legitimacy is sought by linking certain practices to more generalised moral value discourses:

Table 10. Abstraction in the dataset examined

45	We therefore urge political parties to consider <i>the fight against climate change as the necessary basis for achieving equitable and sustainable development in the years to come</i> ; it is in fact essential if their aim is to propose a future vision of society with any chance of success.
46	We therefore hope for an in-depth political agenda considering these issues and prompt action by <i>the next government to fight the climate crisis and its effects</i> .
47	Warming temperatures, disruptions in the water cycle and other climate and weather phenomena impact fragile territories and cause damage at various levels, <i>besides strongly and negatively affecting economic activities and social life</i> .
48	A 100% increase in the frequency of heat waves and between 30 to 40% increase in the frequency of floods and droughts, <i>with a consequent decrease in welfare and gross domestic product</i> .

Source: Own Elaboration, 2023.

To illustrate, in the open letters under examination, the need to shift into a higher gear in the context of SD is mostly legitimised in terms of discourses of effective leadership ([45] and [46]) or economic value ([47] and [48]). Particularly in [47] and [48], disregarding SD policies is framed negatively, as they might have a serious impact on the general public from an economic viewpoint; thus, an attempt is made to raise awareness by referencing an aspect – i.e., money – people are particularly sensitive to. These abstractions foreground certain desired and legitimate qualities, e.g., sound political leadership and economic foresight, which appeal to the general public in important respects.

Finally, analogy is employed to legitimise some actions or behaviours, by equating them to others associated with similar positive or negative values. More specifically, an activity that belongs to one social practice is described by a term which, literally, refers to an activity belonging to another social practice, and the positive or negative values which, in the given socio-cultural context, are attached to that other activity, are then transferred to the original activity (van Leeuwen, 2007):

Table 11. Analogy in the Dataset Examined

49	We know that our research alone was not enough for this recent awakening to climate breakdown <i>as an existential crisis for humanity</i> .
50	Growth and profits are increasing at the same rate <i>as the environmental destruction is worsening</i> .
51	to declare a climate and ecological emergency, recognising these <i>as the most urgent, existential threats to humanity and the biosphere</i> .
52	The current trajectory is so alarming that the academic literature describes it <i>as "biological annihilation"</i> .

Source: Own Elaboration, 2023.

Arguably, the analogies in the open letters investigated paint a bleak picture of the situation concerning sustainability, in order to construct new meanings, identities and relationships (Gordon & Tannen, 2023) in the SD discourse. Expressions like ‘existential crisis’, ‘destruction’ and ‘threats’, are used to frame the current scenario regarding sustainability policies, in order to gain the acceptance and support of the general public. Analogy is therefore employed to cast an unfavourable light on current sustainability measures, evoking a threatening scenario and conjuring up an image of possible negative consequences if change does not occur.

*c) Rationalisation*

Legitimation by rationalisation can be achieved through instrumental rationalisation and theoretical rationalisation. Instrumental rationalisation legitimises actions by considering their goals, uses and effects, so the way purpose is constructed discursively is a fundamental element when appreciating legitimation strategies. In this sense, van Leeuwen argues that in order to serve as legitimations, purpose constructions must serve an element of moralisation (van Leeuwen, 2008). He distinguishes three types of instrumentality, notably goal orientation, means orientation, and effect orientation.

As for goal orientation, it takes the form “I do X in order to do (to be or to have) Y” – though different purpose clauses can be used or remain implicit – with purposes that are constructed by the reader. The open letters under scrutiny in this paper contain many examples of goal orientation discourse:

Table 12. Goal Orientation in the Dataset Examined

53	We have a very narrow window <i>to avoid runaway climate chaos</i> .
54	Advocacy has the potential <i>to drive societal change</i> .
55	We can act <i>to restore humanity</i> .
56	We have to decarbonise now <i>to justly transition</i> to a sustainable future for all.

Source: Own Elaboration, 2023.

As the excerpts above illustrate, when goal orientation is realised explicitly, the agent is represented as intentional in order to foreground the power of their role in a given social practice (van Leeuwen, 2008). One might also observe in passing that the inclusive ‘we’ is frequently employed as a way to refer to the ingroup of the current speaker (van Dijk, 2006). Drawing on van Dijk (2006), we can say that, while not all social collectivities are ideological groups, resorting to ‘we’ in the open letters is intended to empower people, serving as a call to action on sustainability issues.

As regards means orientation, the focus of the purpose is on the action, therefore it is realised by “I achieve doing (or being, or having) Y by X-ing”, or “X-ing serves to achieve being (or doing, or having) Y”:

Table 13. Means Orientation in the Dataset Examined

57	Expand research assessment <i>by incentivising and rewarding</i> advocacy and political engagement.
58	We have to manage climate effects <i>by protecting territories and production activities</i> .
59	We should expose the reality and severity of the climate and ecological emergency all are facing, <i>by engaging in non-violent civil disobedience</i> .
60	It is impossible to adequately address the climate crisis without acknowledging this, <i>by placing the climate crisis</i> in the wider context of social inequalities and the ecological crisis.
61	Those who have benefitted most from our ecologically destructive way of life [...] should bear the brunt of the costs [...] <i>by leading the way in climate mitigation</i> .

Source: Own Elaboration, 2023.

While focusing on the action rather than on the person, in the open letters analysed it may be noted that means orientation is mostly employed to justify measures intended to provide solutions to issues which have been previously presupposed, i.e., information which is left implicit in discourse production (van Dijk, 2007). So, for example, incentivising advocacy and political engagement in SD serves to expand research assessment, which is assumed to be limited; ensuring protection to areas and activities will help tackle certain climate effects, and so on. Consequently, in addition to stating the purpose, means orientation highlights solutions to issues which have been assumed.

In relation to effect orientation – i.e., whereby the outcome of the action is stressed – no numerically relevant instances were found in the data under examination. In this type of instrumentality, the agent of the action, whose purpose is to be formulated, is not the same as the agent of the action that constitutes the purpose itself (van Leeuwen, 2008a). One might speculate that in terms of legitimation construction, effect orientation was not considered to be suitable, as priority is given to goals and means as purposes.

In addition to instrumental rationalisation, the other subcategory of rationalisation legitimation van Leeuwen (2008) makes reference to is theoretical rationalisation, understood as being founded on some kind of truth. Theoretical legitimation can be realised by definition, explanation and predictions.

As regards definition, one activity is defined and legitimised in terms of the other, both have general character and the relationship between them can be either attributive or significative. Explanation is defined as characterising people as actors because the way they do things is appropriate to the nature of these actors (Wodak, 2021). Prediction is concerned with anticipating outcomes based on some form of expertise:

Table 14. Definition, Explanation and Prediction in the Dataset Examined

Definition	62	Policies are needed to make it simple and desirable <i>to act sustainably</i> .
	63	Failure to meet the SDGs is an <i>indication of a systemic problem</i> .
Explanation	64	<i>As academics</i> researching climate and environmental change, we have been encouraged to see increased focus on climate in politics and society in recent years.
	65	<i>As scientists</i> , we present our studies to our peers and communicate our findings to the public.
	66	<i>As climate scientists</i> we are ready to contribute to scientifically based concrete and effective solutions and actions.
Prediction	67	<i>People will suffer more</i> if professionals delude themselves about sustainable development.
	68	Due to climate inertia, <i>the phenomena we see today will be inevitable in the future</i> .
	69	<i>Species loss and ecosystem collapse will have</i> catastrophic consequences for humankind.

Source: Own Elaboration, 2023.

In the instances of definition in Table 13, activities are characterised in terms of already moralised practices (Wodak, 2021). So, for example in [62] acting sustainably is evaluated positively from a moral point of view, and as a result the need for policies will be legitimised. By the same token, the systemic problem in [63] is generally regarded as morally wrong, so failing to meet the SDGs will perform a delegitimatory function in relation to current SD policies. These statements confirm that they work as a type of axiom, referring forwards to the more detailed activities to which they are hyponymically related, or as a conclusion, referring backwards to the activities they summarise (van Leeuwen, 2008).

In relation to the subcategory of explanation, which is concerned with the nature of the actors of an action, the responsibility on the part of academics (the actors) in terms of knowledge sharing (the way they do things) is an aspect which is stressed repeatedly in the dataset examined, legitimising their actions as appropriate to their nature ([64], [65], [66]).

Many instances of prediction can be identified in the data legitimating the position of SR. Not surprisingly, most of them feature epistemic modal status – i.e., through the use of will – as “the future is not fully known and it is always no more than a reasonable assumption that a future event will ensue” (Palmer, 2001, p. 104). In the open letters issued by SR members, some degree of overlapping exists between prediction and authority legitimation. Yet the former is based more on expertise than status (van Leeuwen, 2008), so these predictions might be challenged by contrary experience, even though in our case they are made by scientists. Consequently, the dreadful scenario outlined in [67], [68] and [69] might also not take place and prove wrong. In passing, it can also be noted that most predictions in the open letters seek legitimation by outlining worrisome consequences. This can be explained with the fact that “the topos of danger or topos of threat is based on the following conditionals [...]

if there are specific dangers and threats, one should do something against them” (Wodak, 2001, p. 75).

*d) Mythopoesis*

Mythopoesis is concerned with “legitimation conveyed through narratives whose outcomes reward legitimate actions and punish non-legitimate actions” (van Leeuwen 2007, p. 92). While according to van Leeuwen (2008a), mythopoesis can take four forms (moral tales, cautionary tales, single determination and overdetermination), here the focus will be on the second category, as this is employed the most in the dataset. Cautionary tales outline the negative consequences of not conforming with social practices. In our open letters, it is frequently the case that acting against what is regarded as legitimately sound to tackle sustainability issues will lead to unhappy endings. In this sense, people reading these texts will be “more inclined to accept and legitimise measures put in place to neutralise a threat if they perceive it as an imminent, personally relevant and serious one” (Vasta & Martorana, 2018, p. 179, own translation):

Table 15. Mythopoesis in the SR’s Open Letters

69	Warming temperatures, disruptions in the water cycle and other climate and weather phenomena impact fragile territories and cause damage at various levels, besides strongly and negatively affecting economic activities and social life. Widely accepted estimates indicate that <u><i>climate change will significantly reduce economic development and seriously damage cities, businesses, agricultural production and infrastructures.</i></u>
70	Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation <u><i>will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.</i></u>
71	Without bold and focused action, the current impacts of climate change, such as the recent summer heatwaves and droughts in Europe, the April floods in South Africa and the August floods in Pakistan, <u><i>will pale in comparison with what is to come, rendering current standards of living impossible.</i></u>

Source: Own Elaboration, 2023.

It is significant that the open letters contain instances of reification. By means of nominalisation, verbs are turned into nouns and processes become entities, so that “processes and qualities assume the status of things: impersonal, inanimate, capable of being amassed and counted like capital, paraded like possessions” (Fowler, 1991, p. 80). Consequently, in [70] ‘delay’ is the nominalised entity that acts as the agent of a process. It is delay – rather than the people causing it (e.g., policymakers, decision-makers, the public at large) – that serves as the protagonist of this cautionary tale and that will fail to secure a liveable and sustainable future for all. This is the case also in [69], where climate change and its impacts are regarded as agents and will produce even more negative consequences than those already witnessed in Europe, South Africa and Pakistan. Delegitimation here lies in the fact that the behaviours of these agents are pitted against what is deemed to be accepted – and thus legitimised – social practices. A case could also be made that the letters do not address a

specific agent because tackling climate change or developing a more sustainable approach should involve everyone, not only decision-makers. As a result, here the recourse to nominalisation – rather than excluding participants in the clause (Fairclough, 2003) – might be an attempt to make everybody aware, a call to action for all.

## 5. Conclusions

This paper analysed the language of legitimation considering open letters issued by the pressure group SR to address sustainability issues. Drawing on van Leeuwen's theoretical framework, a number of legitimation strategies were identified which were put in place by SR representatives to raise awareness of questions concerning SD.

In relation to authority legitimation, it was interesting to note that SR resorted to authoritative figures from diverse areas to validate their theories. Mention was made of science experts as a way to stress that SR initiatives were as scientifically grounded as those of established scientists. From a point of view of legitimation, this should be seen as an important move to gain credibility, especially among other experts. Yet SR made sure to refer also to institutional figures, not only to delegitimise the inadequate results of existing policies but also to stress the need for scientists to leave their ivory tower and cooperate with others, as summarised by one of SR's mottos: "Out of the lab & into the streets". (Note 2)

Timing also plays a major role in the texts examined, and the urgency to act is legitimised by stressing that time is running out, so prompt action is needed. For this reason, the disembodied time summons was referred to in our dataset, as a way to involve everyone in the fight against climate change and escape a fate which appears to be imminent.

Relatedly, resorting to mechanisms of moral evaluation, legitimation aimed at depicting events as naturally taking place, frequently by referring to time or change-related expressions. SR's attempt to win over the general public could also be seen when they appealed to qualities – such as effective leadership and economic management – the public is particularly favourable to. Rationalisation legitimation is yet another device SR members made use of in order to talk those in power and the public at large into championing their cause. In this sense, the recourse to presuppositions and the pronoun 'we' further strengthened the discursive forcefulness of the message, especially when outlining the worrisome consequences of acting against their recommendations.

Finally, instances of mythopoesis were identified through which legitimation was sought by storytelling. Once again, emphasis was placed on the disheartening scenarios that can take place should SR's indications go unheeded.

All in all, it can be argued that SR's narrative focused more on legitimising their arguments than on delegitimising those of their opponents, though in some cases a degree of overlapping could be seen between these two discursive planes. Delegitimation mostly occurred when the aim was to highlight the failure of current SD policies and involved top-level institutional representatives. Another aspect which seemed to be recurrent in the material examined was the priority given to the negatives, i.e., the gloomy effects of failing to act as recommended by SR. This was realised by attempting to empower everyone, by resorting to open letters that

helped to amplify the message, calling on decision-makers to take steps for the benefit of the general public, so the latter can assess their behaviour but also play a useful role. This is perhaps the most interesting aim of the open letter genre, i.e., holding those in power accountable while also encouraging the community to act.

It remains to be seen whether or not the legitimization strategies adopted in SR's open letters will come to fruition. Yet it is interesting to note that making use of these strategies might also have unexpected effects in rhetorical terms. Here is a post by the reader of an article published in an online newspaper, who commented on one of the many protests staged by SR:

Using your job title as an authoritative argument does not help. It is perfectly fine (and I would even encourage) using scientific facts to support activism, but using an appeal to authority as a way to change the political direction on any matter, profoundly undermines the scientific effort of providing impartial information and hence legitimacy of scientific research (Kribel, 2023).

This post is illustrative of the relevance of legitimization discourse in controversial issues. These exchanges might also constitute the basis for future research in this area – i.e. examining the responses elicited among the general public – an aspect that was not dealt with in this paper.

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## Notes

Note 1. For the sake of clarity, it should be stressed that ‘legitimation’ will be employed in this paper, save when reference is made to scholarly work where the word ‘legitimization’ is used.

Note 2. This was the content of a banner raised by SR representatives during the conference held in December 2022 in Chicago by the American Geophysical Union (AGU), an association of 60,000 professionals in the Earth and space sciences.

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