



Fridays for Future's Disruptive Potential: An Inconvenient Youth Between Moderate and Radical Ideas

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In December 2015, political leaders celebrated the Paris Agreement as a milestone in the global fight against climate change. Three years later, Greta Thunberg's school strike outside the Swedish parliament inspired thousands of students around the world to protest against their political leaders' inability to adequately respond to climate change. Envisioning livable climate futures for generations to come, the emerging "Fridays for Future" (FFF) movement urges governments to take more radical action on climate change. While FFF has sparked discussions about climate change around the world, the movement's effects on broader societal change remain unclear. We, therefore, explore how FFF has triggered debates beyond the necessity to tackle climate change and offer a framework to reflect upon the broader socio-political implications of the school strikes. We illustrate the contestation between different ideas of social life and political order encapsulated within and attached to FFF by analyzing the movement's self-understanding and the media discourse around these protests in Germany. Although the German government portrays the country as a pioneer in moving an industry-based economy toward decarbonization, the school strikes have quickly emerged and stabilized. We explore if and how the FFF protestors express not only the need for climate action but also call for deeper societal transformation. To do so, our study draws upon a discourse analysis based on news articles, official documents, and speeches, complemented by qualitative interviews with youth representatives and experts involved in the movement to identify competing imaginaries and themes of contestation. We study the tensions between competing student-led visions of the future through the lens of sociotechnical imaginaries, which allows us to illuminate and juxtapose moderate and radical approaches. In conclusion, current school protests are not only about climate action but reflect more fundamental political struggles about competing visions of a future society in times of climate change. Yet, the protestors' strong focus on science-driven politics risks to overshadow these broader societal debates, potentially stabilizing the techno-centric, apolitical and market-driven rationale behind climate action.

Keywords: climate change, global governance, social movement, youth, Fridays for Future, sociotechnical imaginaries, Germany

INTRODUCTION

We need to wake up / We need to wise up
 We need to open our eyes / And do it now, now, now!
 We need to build a better future / And we need to start right now.
A song at a Fridays for Future rally to the melody of "Bella Ciao"
 (FFF_rally_1)¹

In September 2018, 15-year-old Greta Thunberg initiated a school strike outside the Swedish parliament in defiance of an adult world that has failed to take the mounting climate crisis seriously. In less than a year, Greta Thunberg's protest has inspired a global movement of youth climate activism. Under the label, *Fridays for Future* (FFF), children and youth across the world went on the streets to put pressure on political leaders and demand action against climate change and hereby secure livable and save climate futures for generations to come. Thousands of protestors gathered every Friday, even millions protested at globally coordinated events, bringing climate change at the forefront of the political agenda, most notably during the European Parliament election in May 2019 and the Global Climate Action Summit in New York in September 2019. Climate change made its comeback as the key topic in public debates thanks to a highly diverse group that political decision-makers have long portrayed as apolitical or neglected altogether: children and youth.

Although FFF has sparked debates about the urgency of tackling climate change, the movement's broader societal and political implications are yet to be seen. We, therefore, explore FFF's disruptive potential, defined here as the movement's ability to trigger more fundamental debates about social, economic, and political change beyond the field of climate change. Are we witnessing a new social movement that stands up against the adult world, blaming ruling elites not only for their failed climate politics but also for refusing well-established norms, values, rules, and institutions? If and to what extent can FFF challenge established politics and foster macro-societal change? In other words: How and to what extent does FFF link its demands for climate action to broader societal change?

Social movements can generate substantial forces to push for change and demand reforms by putting pressure on existing industries and foster social experiments (Hess, 2010). In envisioning and practicing "alternative pathways," social movements can create laboratories of innovation and spur tests of alternative technologies and social practices. Fisher (2019), for example, argues that FFF fosters not only debates about climate change, but also increases civic participation and thus supports democracy at large.

Frustration over inadequate climate action and a slow response to climate change has motivated hundreds of thousands of young people around the world to protest for climate action. Activists demand the implementation of the Paris Agreement, but also link their claims to more radical changes in society, challenging established power relations and demanding

behavioral change. Calls for implementing climate-friendly technologies merge with strategies of resistance against a fossil fuel-based society. Such a movement is not only confronted with critical debates, but also characterized by internal tensions, conflicts, and ambiguities. While activists like Greta Thunberg are committed to living according to their high principles—promoting a more sustainable lifestyle and reluctant to fly—others were harshly criticized for the dilemma between an unsustainable way of life and their political demands (Wunderlich, 2019). Ideological divides about questions of identity, radicality, and representation accompany these tensions within the movement. This article explores these debates by shedding light on FFF's self-understanding and its public perception in Germany, where FFF has emerged as a powerful youth movement, orchestrated by scientists, parents, environmental organizations, and other actors. They all join forces to challenge the status quo of the climate mitigation pathway propagated by the German government, but with different motifs and conflicting visions of the future.

We investigate the competing ideas of social and political order attached to the movement's claims by mobilizing the concept of sociotechnical imaginaries (Jasanoff, 2015). While activists imagine a carbon-free future in line with, but also in opposition to a dominant growth- and technology-centered narrative, the concept of sociotechnical imaginaries allows us to discuss if and how potential alternatives to the mainstream notion of climate action enter and potentially disrupt the political discourse. Based on the assumption that citizens and communities outside and beyond centers of power can produce and perform new sociotechnical imaginaries and prefigure desirable alternative climate futures (Kim, 2015), we discuss the emergence of these alternative narratives and their potential socio-political implications.

Germany often portrays itself as a global climate leader and a pioneer in decarbonizing its industry-based economy (Jänicke, 2016). Yet, school protests quickly gained traction and have stabilized across the country, accompanied by intensive public debates. To shed light on FFF's broader implications, we thus analyze not only how the movement portrays itself, but also how the media discourse evolves around it. Drawing upon a document analysis based on news articles, official documents, and speeches, we explore the narratives employed by the FFF protestors who express not only the need for climate action but also call for broader societal change. We complement this analysis with qualitative interviews with adult representatives and experts involved in the movement. Asking how FFF disrupts established narratives around climate politics, we argue that FFF largely fails to challenge a techno-centric, apolitical, and market-driven understanding of climate action—at least in public debates. At the same time, the conflicts between competing voices both within the movement and within the media debate demonstrate that these protests are not only about climate action but also reflect more fundamental political struggles about competing visions of a future society. We propose an analytical framework to engage with the broader sociopolitical meaning of FFF and offer a typology that distinguishes between moderate and radical approaches in the FFF movement.

¹The list of rallies attended and interviews conducted can be found in **Annex 1**.

Setting the stage for this investigation, Section Non-state Actors in Climate Politics situates this study in the broader field of non-state actor involvement in climate politics. We then outline the analytical framework for this study in Section Analyzing Contested Visions of the Future: Emerging Imaginaries, largely based on the concept of sociotechnical imaginaries. Data collection and assessment methods are presented in Section Methodology, followed by the empirical analysis of the FFF movement and its perception in German media in Section A Movement in the Making. Section Emerging Imaginaries: Moderate vs. Radical Approach discusses the struggle between moderate vs. more radical approaches in the FFF movement before we draw our conclusions in Section Conclusion. While policy-makers tend to imagine climate mitigation efforts in terms of technological advancements, efficiency, and more sustainable lifestyles, we explore how youth activists possess the capacity to perform counter-narratives and critical discontent to such a dominant imaginary.

NON-STATE ACTORS IN CLIMATE POLITICS

Tackling the “wicked problem” (Frame, 2008) of climate change requires action by a variety of actors at multiple levels. Not surprisingly, the Paris Agreement calls for joint efforts by states and non-state actors alike to cut global greenhouse gas emissions (UNFCCC, 2015). This multifaceted relation between the global climate change regime and the role of sub- and non-state actors stands at the core of research that has surged over the last decades (Okereke et al., 2009; Kuyper et al., 2018). Non-state actors do not only undertake research, present their positions, monitor state commitments, act as critical watchdogs during negotiations, and communicate to international and domestic publics and thus shape international environmental cooperation (Raustiala, 1997, p. 724). They also “challenge the limitations of the traditional state-centric system” (Princen and Finger, 1994, p. 217) as critical and independent outside voices.

This study addresses three prevalent shortcomings of the field: (1) Empirically, youth has received relatively little attention compared to other non- and sub-state actors such as businesses, cities, or environmental NGOs. (2) On a more conceptual level, issues of resistance and radical confrontation have rarely been addressed in post-Paris climate governance literature that has focused on collaborative approaches and modes of inclusion in a hybrid climate regime (Hale, 2016; Kuyper et al., 2018). (3) Questions of de-politicization are rarely raised in this context.

(1) Transnational actors, corporations, non-governmental organizations, and city networks are at the heart of climate governance literature that deals with and goes beyond the state-centric climate regime. Rather than approaching the state as the only actor responsible for addressing transboundary environmental problems, scholars have developed a rich body of literature about the critical roles played by a range of non-state actors in making, implementing, and enforcing climate action (Bäckstrand et al., 2017). During the past decade, a rich body of work has documented the widespread non-state experimentation

with climate action that now occurs below, above and beyond the institutions of the state (Hoffmann, 2011; Bulkeley et al., 2014). By extending the understanding of climate politics beyond the state system, work in this field has offered “a more nuanced sense of spatial hierarchy, where multiple sites of climate politics nest within one another” (Stripple and Bulkeley, 2011, p. 6). Yet, academic contributions dealing with the particular role of youth in climate politics are still rare. Existing accounts discuss how children shape climate change debates (Tanner, 2010) or contribute to international climate negotiations (Darrach, 2011; Thew, 2018). They often explore the governance functions of non-state actors typically discussed in climate governance research (Löfbrand and Stripple, 2011, p. 27).

(2) Non-state actors have become a more and more integral part of the global climate change regime, contributing to its formalized governance architecture. They shape the negotiation and implementation of multilateral environmental agreements through vertical interactions between jurisdictional levels as well as cutting across territorial boundaries and the divisions between public and private authority. Not surprisingly, there are various attempts to conceptualize non-state action and operationalize their different roles (Nasiritousi, 2016; Nasiritousi et al., 2016) or influence (Betsill and Corell, 2014; Betsill, 2015). Environmental governance scholars have also developed multiple analytical perspectives to account for the complex interrelations between the “multiple sites of climate politics” (Stripple and Bulkeley, 2011, p. 6), including multi-level environmental governance (Wälti, 2010), polycentric governance (Jordan et al., 2018), networked governance (Tosun and Schoenefeld, 2017), or fragmented climate governance (Zelli, 2011). At the same time, the tensions between inside and outside voices in international climate negotiations (Betzold, 2013; Hadden, 2015) are less pronounced. While the Paris Agreement is largely framed as an opportunity for all stakeholders to contribute to global climate action (Hale, 2016), others criticize the text as a form of dangerous incrementalism (Allan, 2019) with a strong belief in technological advancement and eco-modernist reforms. Scholars have linked these tensions between conservative and progressive approaches to competing beliefs, ideologies, and discourses in global environmentalism (Bäckstrand and Löfbrand, 2006; Dryzek and Stevenson, 2011).

(3) This observation speaks to the post-political critique of collaborative environmentalism (Swyngedouw, 2010; Machin, 2013; Blühorn and Deflorian, 2019) which describes a situation in which the political “is increasingly colonized by technocratic mechanisms and consensual procedures that operate within an unquestioned framework of representative democracy, free market economics, and cosmopolitan liberalism” (Wilson and Swyngedouw, 2015), rather than being a space of contestation and agonism. Environmental concerns are framed as bipartisan, apolitical issues “beyond politics” (Doherty and Doyle, 2013) or as “simply “a reality” that has to be dealt with. While climate governance has witnessed a process of de-politicization based on ideas of (scientific) consensus, universalism, and rationalism, a few authors also define climate politics by political antagonisms, which is often not recognized (Chatterton et al., 2012). More broadly speaking, current non-state actor literature leaves out

the articulation of political alternatives to neo-liberal hegemonic order and calls for radical democratization, eliminating “the possibility of an agonistic struggle between different projects of society which is the very condition for the exercise of popular sovereignty” (Mouffe, 2018).

Exploring FFF's disruptive potential means to discuss the movement's ability to re-politicize climate politics by reviving antagonism and a dispute over competing ideas of a livable society. Does FFF mark a revival of the political in a field that has sparked debates about depoliticization and the post-political (Swyngedouw, 2011)? And if so, what politics and visions of the future are imagined by the young protestors?

ANALYZING CONTESTED VISIONS OF THE FUTURE: EMERGING IMAGINARIES

Establishing and sustaining a certain ideal of an alternative climate future drives social protest that shapes climate-related discourses and action (Hanna et al., 2016a,b). We employ the conceptual framework of sociotechnical imaginaries to analyze the tensions between competing student-led visions of the future in the German FFF movement. The concept helps us to draw the lines between the explicit and outspoken future visions related to climate change to often more implicit issues of knowledge production, ideas of social order, and power struggles related to envisioned climate futures. A better understanding of envisioning processes and the imaginary power of a youth movement also looks at the underlying causes for social impacts such as behavioral change, social cohesion, and capacity building (Gubbins, 2010). Equity, social justice, and human rights impacts (Esteves et al., 2017) are equally part of an imagined climate future.

While social movements can be defined as mainly informal, pluralistic, and politically driven networks engaged in societal concerns based on “shared collective identities” (Diani, 1992), such a claim has yet to be substantiated for FFF. The movement arguably aims to organize in large numbers to wield political power (Alinsky, 1971; Sharp, 1973) and intends to foster broader social and political change. Yet, to create counter-institutions or projects, social movements need to engage in collective experimentation and the construction of new norms that prefigure an ideal society or a sociotechnical imaginary, e.g., through the establishment of transition towns (Hardt, 2013). “Experimentation, the circulation of political perspectives, the production of new norms and conduct, material consolidation, and diffusion” (Yates, 2015, p. 2) are essential components in building these future-oriented alternatives.

Social movements are driven by large and diverse sets of motivations such as personal frustration toward existing conditions, economic interests, or a strong belief in particular values. A key motivator for social movements in general, and FFF activists in particular, is their high confidence in a future that is different from the established routines and the business-as-usual scenario. These envisioned futures can be perceived as threats to existing, dominant power relations and incumbent interests. “The pursuit of utopian goals” (Buechler, 2000, p.

207) is essential in outlining an alternative to the status quo and the creation of alternatives through prefigurative activism means to reject existing hierarchies and refuse centralized power structures that (re)produce power imbalances (Boggs, 1978).

The concept of sociotechnical imaginaries connects the imagination of desirable visions of the future with ideas about the role of technology and innovations in society, the legitimacy of science and knowledge claims, and the production of power and social order (Jasanoff, 2015). Being “collectively held, institutionally stabilized, and publicly performed,” sociotechnical imaginaries are “animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology” (Jasanoff, 2015, p. 4). Sociotechnical imaginaries are temporally situated and culturally particular but are not limited to the scale of nation-states (Jasanoff, 2015); indeed, they can also be propagated by corporations and organized groups, including communities and social movements (Kim, 2015).

Climate politics and decarbonization represents a field where visions of the future are intrinsically linked to different means of science, technology, politics, and societal change. Various imaginaries can co-exist, either in a tense or productive relationship and thus may support or compete with a dominant societal imaginary. These imaginaries gain “traction through blatant exercises of power or sustained acts of coalition building” (Sand and Schneider, 2017, p. 22), e.g., through campaigns by social movements. Imaginaries not only encode what is attainable, but also envision how life ought (or ought not) to be, and so express shared understandings of good and bad. The concept also links the present with the past and the future in conceptualizing the interrelationships between power, society, and technology. Such a co-productionist perspective (Jasanoff, 2004) can also be found in a prefigurative strategy of social movements that involves the two practices “of confrontation with existing political structures and that of developing alternatives” (Maeckelbergh, 2011, para.15).

Imaginaries are not neutral, but highly political constructs—highlighting certain aspects while leaving out or erasing others. They hold the potential to coordinate actions across techno-epistemic networks, foster development pathways, and can include or exclude certain actors in the decision-making process (Jasanoff, 2007). They are defined in the context of this work as desirable visions of a future society where proposed policies and technological innovations related to climate action and decarbonization are intrinsically linked to competing ideas of social and political order.

Kim (2015) has developed seven analytical categories to juxtapose dominant imaginaries vs. critical discontent for the context of nuclear imaginaries in South Korea. These categories are (1) future vision and planning, (2) societal needs, (3) risks and threats, (4) the state, (5) people and citizens, (6) the market, economy and development, and (7) science and technology. These analytical categories express the broader dimensions of social and political order to which demands by social movements relate. They guide a movement's identity and echo in public debates—either explicitly or implicitly. **Table 1** summarizes

TABLE 1 | Analytical dimensions and guiding questions related to sociotechnical imaginaries.

Analytical dimension	Core questions
Future vision and planning	What kind of desirable future society is imagined, and how should it be reached?
Societal needs	What are the pressing societal needs and issues that should be prioritized?
Risks and threats	What are the dominant risks and existential threats for society?
The state	What role of the state is imagined?
People and citizens	What is the role of the people in a desirable vision of the future?
The market, economy, and development	What is the role of the market and development priorities in achieving a desirable future, and how should the economy look like?
Science and technology	What role has science and technology in an imagined, desirable future?

the seven dimensions, together with guiding questions for the analysis.

Sociotechnical imaginaries relate to the underlying motivations and the explicit justifications for social movements to demand change. The concept allows us to investigate how societal groups contest a dominant socio-technical system, imagine an ideal future society and act out a vision of a better community in contrast to existing climate politics and plans to tackle climate change in the future. Although the notion of alternative visions overlaps with “other types of political activity” (Yates, 2015, p. 2), such as countercultures, utopianism or idealistic groupings, the concept of imaginaries is particularly helpful to investigate the underlying visions of society that motivates and guides activists, supporters, and opponents of FFF alike.

Taking into account the characteristics of a young, diverse, and quickly developing movement, we can mobilize the concept of imaginaries to explore the disruptive nature of the FFF movement to established climate politics. Yet, FFF poses a few challenges that need to be considered here. (1) FFF represents a global movement that cannot be fully understood through a national case study alone. The movements’ claims and actions shape and are shaped by action in other national contexts. (2) The movement’s bipartisan attitude and its strong emphasis on science-guided politics make political struggles and differences less pronounced than in explicitly political contexts. (3) Finally, the imaginaries discussed here should be considered as imaginaries in the making or emerging imaginaries, fragile and not yet fully established or institutionalized. They might quickly change over time or even collapse. Yet, identifying moderate and radical claims articulated by and associated with FFF helps us to reflect upon the movement’s potential socio-political implications.

Recognizing FFF’s diversity in terms of claims and subject positions, we simplify our analysis here by distinguishing between two idealized types of emerging imaginaries: While a *moderate* imaginary aims for reforms within the existing

system based on a cooperative approach that is guided by science, techno-optimism and ecological modernization, a *radical* imaginary entails more disruptive forms of systematic change in confrontation with established norms and institutions. Although this research does not identify stable imaginaries, we can point at their emergence by outlining the struggle between these two ideal types within the FFF movement. The framework thus allows for a critical reflection about the heterogeneous movement’s radicality by making conflicts and tensions visible.

METHODOLOGY

This work sheds light on a growing social movement’s self-understanding and its perception in the public sphere. The qualitative research design that is based on media articles as well as public speeches, interviews and FFF position papers. Additional interviews with adult representatives and experts involved in FFF helped to highlight debates and tensions within the movement². While the explorative research design helps to capture the movement’s diversity, identify internal struggles and picture its perception in public, the analysis does not provide a comprehensive overview on the movement’s goals and strategies. However, the juxtaposition of moderate vs. more radical imaginaries offers an entry point for discussing FFF’s potential socio-political implications.

Germany serves as a case study where FFF has quickly emerged and stabilized over a short period of time. Despite being the biggest greenhouse gas emitter in the EU, Germany is committed to tackling climate change, aiming to reduce its emissions by 80% until 2050. FFF representatives have become public figures and the movement has shaped political debates throughout 2019 from carbon taxes over flight-shaming to cities declaring a state of climate emergency. FFF also triggered debates about the role of youth in society or civil rights in a democratic system. A diverse media landscape allows exploring contrasting visions and competing narratives attached to FFF in conservative, liberal and left-leaning media outlets.

Data gathering followed an explorative approach, but was guided by the seven dimensions of sociotechnical imaginaries outlined above. The three consecutive steps are reflected in the presentation of results: (1) We first identified three prevalent tensions and conflicts within the FFF movement: the movement’s political claims, its organizational strategy, and issues of leadership and representation. (2) Drawing our attention to the media debate, we investigated how these issues of contestation were discussed in three different media outlets. (3) We develop and discuss a typology of moderate vs. radical emerging imaginaries related to FFF based on the analytical framework presented above. **Annexes 1–3** summarize the aim, process, material, and analytical categories related to these steps

²For the interviews, we have obtained written informed consent from all interview partners. All interviewees were above the age of 21 and complemented this analysis. Since this analysis is based on publicly available information (media articles, public statements etc.) as well as insights from adult experts (interviews) an ethical review process was not required for this study.

together with codes from the coding process and examples from the material.

To explore the self-portrait of the movement, we analyzed selected public statements, FFF position papers, and interviews published in news outlets. We also joined three rallies as participant observers in Berlin and conducted six interviews (between 30 and 60 min in length) with German youth representatives and experts from environmental NGOs above the age of 21 during the 50th UNFCCC subsidiary bodies meeting in Bonn in June 2019. Questions revolved around policy goals, visions, motivations, and the students' drivers for protest. A list of material is included in the codebook excerpts provided in **Annexes 1–3**.

For the media debate, we concentrated on four different media outlets that are both nationally relevant and represent the political spectrum from conservative over liberal to left-alternative (Hanke, 2011; Hintereder, 2012). These outlets are *Der Spiegel*, *Die Welt*, *Die Tageszeitung taz*, and *Süddeutsche Zeitung*. Material from both their print and online versions is included. With the help of Lexis Nexis® and a manual search in the outlets' archives, we derived a total of 2,857 articles mentioning "Fridays for Future" for the period between January 1st, 2019 and October 31st, 2019. We then reduced the number of relevant matches to 635 by excluding all matches with <500 words to focus on more in-depth reflections. We further reduced this number to 178 by manually selecting key articles that deal with FFF at their core. **Figure 1** provides an overview of the number of articles considered relevant for this analysis.

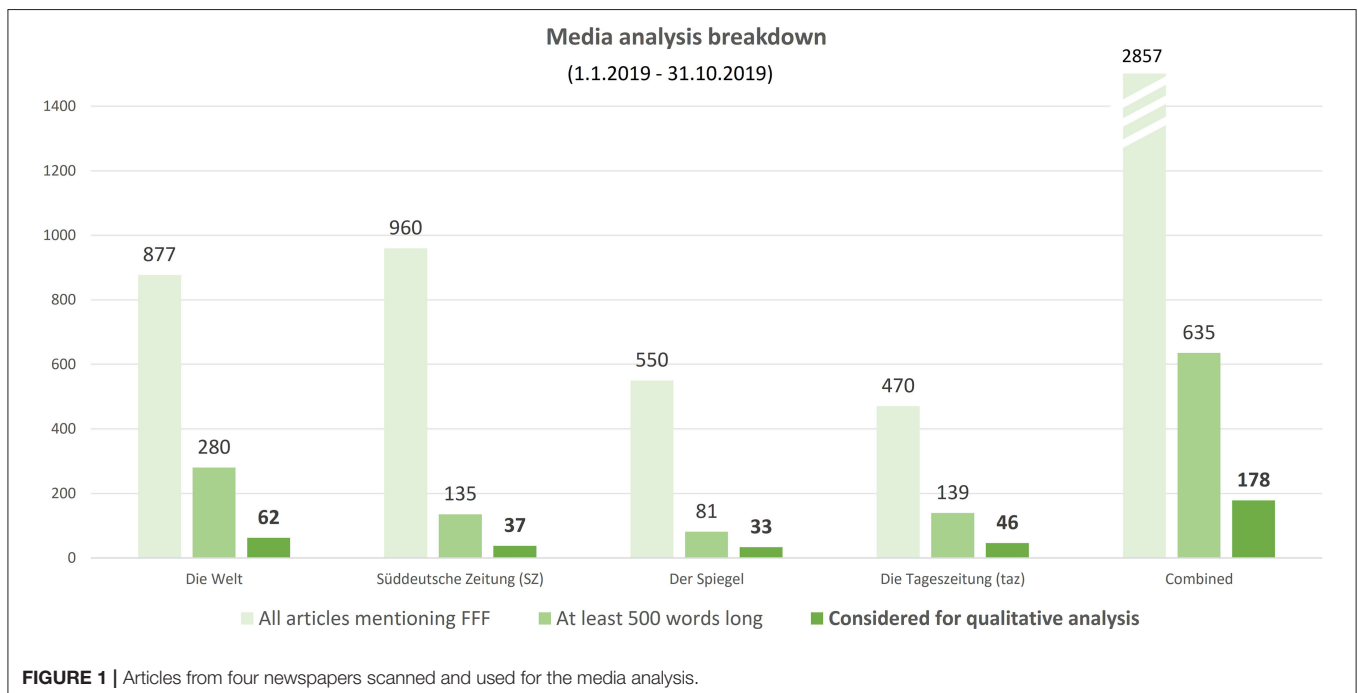
Following the methods suggested by Jasanoff (2015), we systematically mined our qualitative material for insights into the framings and justifications behind climate action outlined by and related to FFF. Since the use of language represents

an important medium in the construction of imaginaries, we carefully investigated the choice of words, both spoken and published, and linked it to the proponents' (alternative) visions of a desirable future. A codebook helped us to go through the data-driven, yet theory-oriented process. The codes and examples from the material can be found in **Annexes 1–3**. Similar to DeCuir-Gunby et al. (2011), the codebook consists of the following components: the overarching category (core themes), the code groups, the code labels, examples from the material, and the sources where it appears.

From this codebook, we identified and extracted recurrent discursive elements to highlight how different storylines of alternative imaginaries are emerging that stand in contrast to the dominant imaginaries of decarbonization.

A MOVEMENT IN THE MAKING

In September 2019, Germany's federal government presented the country's first-ever comprehensive climate change legislation right before the global climate action summit took place in New York. The law marked the outcome of an intense internal and public debate about Germany's climate commitments and measures to comply with the climate targets for 2030. The climate package consisted of a major framework (*Climate Action Law*) and a policy program of measures and instruments (*Climate Action Programme 2030*), that was finally approved by the Germany federal parliament (*Bundestag*) and the council of state governments (*Bundesrat*) in November and December 2019. These measures were taken to ensure that Germany fulfills its commitment to the Paris Agreement and reduce its greenhouse gas emissions by 55 percent by 2030 compared to 1990 levels



(Bundesregierung, 2019). The formulation of the law and its passage have become a reference point for the FFF movement. FFF had pushed the German government to develop a strong climate law before September 2019 and quickly criticized the reached compromise as unsatisfying and insufficient to tackle the global climate crisis (Kreutzfeldt and Pötter, 2019).

In 2019, FFF has shaped public debates on climate change throughout the year, and the school protests were often portrayed as a powerful protest movement, pushing for more ambitious climate action. FFF became a synonym for civil society's demand for more ambitious climate change commitments. However, such a unifying perspective blurred the lines between the movement's different voices and overshadowed FFF's internal debates about the movement's strategy, its political claims, and issues of identity and representation. The launch of a shared website, the development of a corporate identity, and the establishment of selected spokespersons who dominated the debates underlined the impression of a unified "potential mass movement" (Koons and Naumann, 2019). Yet, these observations do not give justice to the heterogeneity of a movement that is united in its opposition toward the government's climate legislation, but also articulates contested claims and competing visions of the future. Instead of portraying FFF as a static and bipartisan movement that calls for science to guide climate politics, we explore the conflicts, tensions and issues of contestation around the movement and its perception. Such an analysis reveals the movement's fundamental struggles over FFF's overall strategy, its political claims and questions of identity and representation.

Self-Portrait of Fridays for Future

Only a few months after Greta Thunberg initiated her school strike in front of the Swedish Parliament, the German FFF movement gained momentum in early 2019. While the first regional groups formed all across Germany already in late 2018, they gained nationwide traction after launching a dedicated webpage and centralized social media channels since January 2019. On February 15th, more than 30000 students went on strike all over the country, organized by more than 150 regional groups (FFF Germany, 2019c)³. During the global protest event on March 15th, ~300,000 people joined the strikes in Germany. While the school strikers used simple modes of communication, such as WhatsApp or Twitter, to coordinate their activities and gain public attention, a few representatives such as Luisa Neubauer became the voice and face of a movement in public talk shows, during high-level political events and for interviews in leading national newspapers (Kögel, 2019) and broadcasters (Phoenix, 2019).

A few weeks later, a group of FFF activists presented a position paper with their demands for climate protection (FFF Germany, 2019e) to push politicians toward more ambitious climate action. In a related press conference held in Berlin's Museum of Natural History in front of a gigantic Brachiosaurus skeleton, FFF spokesperson Sebastian Grieme explained that an immediate shut-down of one-fourth of all coal power plants in Germany would be "doable" and the complete phase-out should

be realized by 2030 instead of 2038 (FFF Germany, 2019d; Lang, 2019). The statement stands for a pragmatic approach of the movement that aims to achieve climate targets without radical social and political disruption.

During the first half of 2019, various self-organized events, rallies, and workshops were held, often in collaboration with established environmental organizations like Greenpeace or environmental movements such as *Ende Gelände*. These joint events brought together activists from different parts of Germany and Europe. In June 2019, around 40,000 protesters from 15 countries rallied in Aachen near one of Germany's largest lignite mine, demanding bold action to combat climate change (DW, 2019). During the movement's regular rallies on Fridays, a variety of slogans characterized the diversity of the movement. While slogans such as "there is no OR between nature and economy" underline this reformist understanding that is based on technological innovations and ideas of ecological modernization (FFF_rally_1), others demanded "system change, not climate change" through large-scale societal transformations or the abolishment of the capitalist system (FFF_rally_2).

In a wave of solidarity, a variety of groups such as *parents for future*, *architects for future*, *artists for future*, and *entrepreneurs for future* articulated their support for the growing youth movement. Under the label *scientists for future*, a large group of scholars backed FFF, called their concerns and demands "justified" and based on "robust scientific evidence," adding a call to expand renewable energy, implement energy savings measures and move toward more sustainable consumption patterns (Hagedorn et al., 2019, p. 80). Besides, labor unions expressed their recognition at FFF rallies. For example, Henrik Peitsch (education and science workers' union) stated his hope that the protests should trigger debates about a "transformation of society" that goes beyond incremental change and reforms (Peitsch, 2019). According to a poll from June 2019, more than half of the respondents believed that the movement will eventually lead to "measurable political consequences" of any kind (ZDF, 2019).

Through its self-characterization as a politically neutral, "bipartisan movement" of like-minded climate activists in solidarity with everyone who supports the group's demands (FFF Germany, 2019e), FFF Germany aims to embrace as many different voices as possible. Leading figures of the movement such as Neubauer and Reimers (2019) are unified by a strong belief in science and evidence-based climate politics, and they often refuse to take strong political positions. Instead, politicians are in general not accepted as speakers during their rallies and media portrays the movement or even more generally "the youth protesting on the streets" as a widely homogenous movement with little internal conflicts or political debates (Rucht, 2019). Despite these impressions of a coherent, unified movement, a closer look at FFF Germany's internal debates reveals emerging tensions and frictions around the group's (1) *political claims*, (2) *its organizational strategy*, and issues of (3) *leadership and representation*.

(1) *Political claims: moderate reforms vs. systemic change.* Climate science, the IPCC, and the Paris Agreement are framed as a common ground for action in strong alliance with the scientific community. For example, FFF activists have formulated their

³The number of regional groups increased to more than 600 by September 2019.

demands to achieve the goals of the Paris Agreement in close collaboration with climate scientists (Ronzheimer, 2019). The group's claims refer to scientific bodies like the IPCC or the German Environment Agency (UBA), and highlight concepts such as planetary boundaries or environmental tipping points (FFF Germany, 2019e). Their central demands for Germany include carbon neutrality by 2035, a coal phase-out by 2030 and 100% renewable energy supply by 2035. A carbon tax should be introduced with a price of 180 € per ton of CO₂. Achieving these targets requires ambitious political reforms, but does not question the current political or economic system (Neubauer and Reimers, 2019).

At the same time, individual protestors and FFF subgroups criticize the key demands formulated by FFF as techno-centric and not radical enough to induce “real” or “systemic” change (Konicz, 2019). They argue that instead of negotiating the year for phasing out coal, more fundamental questions related to globalization or the future of the economic system should be at the forefront of debate (Interview_1). These activists consider themselves as radical and much more confrontational voices in society who speak out claims that “no one else dares to say” (Anonymous, 2019b). Negotiations with politicians about technical details are seen as forms of distraction that limit the range of thinkable alternatives (INTERVIEW_3). As one consequence, FFF activists initiated the platform *Change for Future* as an anti-capitalist movement within FFF. They reject the capitalistic system as well as ecological reforms within the current system, which they perceive as an obstacle to more fundamental and systematic changes in society (Konicz, 2019). Pledging for a fundamental realignment in society to cope with the challenges of climate change, they strive for not less than a “democratization of the entire society [because] many of us have long realized that capitalism is the problem.” They want to bring the question of systemic change to the forefront of the public debate to show “that a different world is possible” (Konicz, 2019).

(2) *Organizational strategy: professional organization vs. grassroots movement.* Another tension that characterizes the self-understanding of the movement emerges from the conflict between a professionally organized group and a grassroots based movement. The development of a comprehensive catalog of demands, the establishment of a spokes-council and the use of a central website hint at the emergence of an increasingly professional and streamlined movement (Interview_5). While former environmental activists such as Gerhard Wallmeyer (Greenpeace) call for an even stronger institutionalization and the establishment of “crystal-clear organizational structures” (Bruhns, 2019), anonymous activists push back and criticize the lack of transparency and basic democracy in the former grassroots movement (Anonymous, 2019a).

From early on, FFF was driven and represented by students who were often already involved in the German Green Party's youth organization or environmental organizations like Greenpeace, BUNDjugend or NABU. For example, Luisa Neubauer, the “face of Fridays for Future in Germany” (Süß, 2019) is a member of the Green Party. These leading figures are thus already embedded into existing highly professional and well-connected networks. Manuals and recommendations

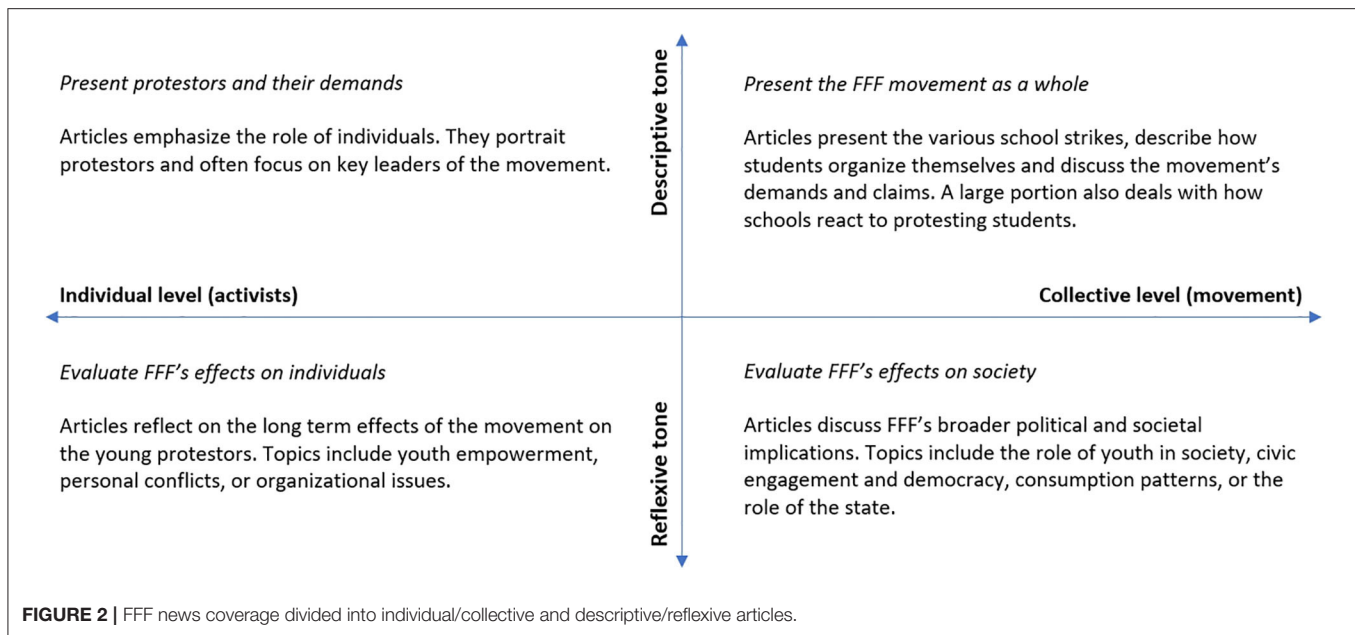
for organizing regional groups, centrally provided material for protests and media correspondence, and even merchandising material like an official bracelet are characteristic for tendencies in the movement to give it a coherent (corporate) identity (FFF Germany, 2019b). While activities are strategically branded with the FFF label (FFF Germany, 2019b), a number of student activists have formulated their concerns with the increased levels of professionalism. Particularly during the first nationwide FFF congress in August, where thousands of activists discussed the future of the movement, protestors raised their frustration over the professionalization of FFF (Schirmer, 2019) that started as a grassroots movement, but quickly “came of age” (Chase, 2019).

(3) *Leadership and representation: top-down leadership vs. bottom-up diversity.* While strong ties to established environmental organizations, scientists, and even the Green Party are considered beneficiary for a large part of students, others refuse the degree of centralization related to a higher degree of professionalism which stands in contrast to a loosely organized grassroots movement (Interview_2). Along these lines, questions of representation, decision-making capacity, and legitimacy are of utter importance for the German FFF movement that is mainly represented by a few spokespersons such as Luisa Neubauer, Sebastian Grieme, Jakob Blasel, or Maximilian Reimers.

Various activists publicly criticize the dominance of a few leading activists like Luisa Neubauer and her formerly carbon-intensive lifestyle in public debates (Hipp and Ismar, 2019). Open and partly anonymous letters from activists criticize non-transparency, knowledge hierarchies, and a lack of direct democratic decision making (Anonymous, 2019a; Schirmer, 2019). These critical voices point at the dilemma between the movements' aim for a better future and its internal hierarchies and power dynamics. These tensions triggered debates about legitimate representation and decision-making processes. Who speaks for a movement that has neither a clear legal status nor established decision-making structures? While FFF school strikers in local groups like Cologne demanded flat hierarchies, democratic decision making and broad forms of representation during FFF Germany's first summer congress in Dortmund, others justified the need for key figures to coordinate action, take opportunities and represent the movement in public debates (Schirmer, 2019). As a compromise, leading activists like Luisa Neubauer agreed to forward media requests to local groups and limit her own presence in public debates (Süß, 2019).

Media Discourse Around Fridays for Future

German media coverage about FFF was constantly high throughout 2019 with spikes around the mass protests in March, May and September. While most early articles were rather descriptive and focused on the number of protestors or the struggle of school officials to react to the protests (Meidinger, 2019), others provided more personal insights into the movement through observations, portraits and interviews (Quecke, 2019a). FFF has become a synonym for climate activism and a point of reference for almost any climate-related topic, and so has the movement arguably been excessively used as an opener or keyword for a broad range of debates ranging from electric



vehicles (Bellberg, 2019) over flight shaming (Hecking, 2019b) to the limits of growth (Unfried, 2019a).

Based on our total sample of 635 newspaper articles,⁴ we can distinguish the articles' focus along two general axes: (1) Their scope ranges from individual protestors to the movement as a whole, and (2) they are either more descriptive in nature or provide a more analytical, evaluative tone. Such a differentiation leads to four different categories of articles: At the individual level, articles either describe and portray young individuals who are part of the movement (Sonheimer, 2019) or evaluate how the movement shapes children and youth in terms of empowerment, conflict management, and organizational issues (Bruhns et al., 2019). At a more collective level, articles either present the school strikes, protestors and the schools' reactions (Gehm, 2019) or they discuss FFF's broader effects on society (Unfried, 2019a). **Figure 2** provides an overview on this differentiation.

FFF has brought back climate change to the forefront of public debates and triggered widespread discussions about climate action. While advocates of a stronger climate change agenda supported the movement, opponents aimed to delegitimize it (Gehm, 2019)—most importantly when the movement's claims were discussed in the context of societal change. For the following analysis, we concentrate on the 178 articles with a more reflexive and evaluative tone and a focus on the collective, societal level. In line with the three issues of contestation discussed above, we will shed light on debates about the movement's (1) *organizational strategy*, (2) its *political claims*, and the (3) *questions about leadership and representation*.

(1) *Organizational strategy: Topical protest vs. political mass-movement*: Especially early debates about FFF revolved around

the conflict between the students' duty to go to school and their right to protest (George, 2019). While conservatives highlighted the students' responsibility to attend school hours and suggested to protest after school or during weekends (Meidinger, 2019), others celebrated the protests as a form of public engagement and youth empowerment, which should be encouraged (Pötter, 2019). Commentators showed understanding for the students' frustration and concerns, and described the climate protests as morally absolutely "justified" (Klein, 2019). In contrast, Baden-Wuerttemberg's prime minister Winfried Kretschmann (Green Party), portrayed the protests as "civil disobedience that cannot proceed forever" (Laeber, 2019). School principals generally sympathized with the movement's intention but also announced punishments for students who regularly join the protests during school hours (Wetzel, 2019). Especially in southern and western Germany, school principals fined students for their absence from school but later withdrew the fines after public protest.

Beyond these controversies about the legitimate form of school strikes, FFF also triggered debates about stronger youth involvement in climate politics (FFF Germany, 2019e), and revived discussions about democratic participation. Among others, ideas to decrease the minimum voting age to 16 were discussed in the context of FFF (Welzer, 2019). Activist Jakob Blasel called FFF a "lived lesson in democracy" that cannot be taught at school (Sadik, 2019). In contrast, critical voices such as Hüther (2019), head of the German Economic Institute, called for an end of the protests and urged the students to "change politics democratically" by getting politically involved in parties and parliaments instead.

(2) *Political claims: reformist approach vs. transformative ideal*. FFF sparked debates about concrete climate policy reforms (Lang, 2019)—often linked plans and initiatives developed by the Federal Government's "climate cabinet." Public debates about topics like the coal-phase-out were linked to or reflected through

⁴Articles mentioning "Fridays for Future" and published between January 1st and October 31st in *Die Welt*, *Süddeutsche Zeitung*, *Der Spiegel*, and *Die Tageszeitung taz* which are more than 500 words long.

FFF voices and protests (Bauchmüller, 2019). Even conservative politicians like Bavaria's prime minister Markus Söder applauded the movement and suggested an earlier coal phase-out (Schlüter and Müller, 2019). At the same time, FFF generated an increased interest in general environmental concerns due to overconsumption such as plastic waste (Gehm, 2019) or air traffic (Gehm, 2019). The mayor of Konstanz admitted that it was the regional FFF group's pressure, which triggered the town's decision to declare a state of climate emergency (ZEIT, 2019).

A few commentators and intellectuals attached their ideas of broader societal change, anti-capitalism, or fundamental criticism of the political system to the movement (Leick, 2019). Grassmann (2019), for example, linked the movement to the fight against industries and lobby groups which neglect a deep transformation of the economic system. Moral arguments for an alternative idea of social life based on sufficiency were used to convince people of behavioral change, e.g., in areas like transport, electricity consumption, or traveling (Unfried, 2019b). While these arguments were interpreted as part of a "massive political and cultural change" (Griefshammer, 2019), they have largely failed to foster a "dispute over moral politics" (Kliche, 2019) and values beyond the use of plastic bags, flight shame or car ownership. Despite these attempts to interpret FFF as a "cultural change" (Krüger, 2019), the largest part of the debate involved the role of instruments and mechanisms to reduce carbon emissions. Broadly discussed topics included taxes on kerosene (Wetzel, 2019c), enhancement of public transport (Preuß, 2019), or the coal phase-out (Wetzel, 2019a).

(3) *Representation: Pragmatic leadership vs. confrontational movement.* According to FFF's official demands (FFF Germany, 2019e), political reforms, economic incentives and technological advancement are needed to fulfill the Paris Agreement and achieve its 1.5°C target. Leading figures and spokespersons of the FFF movement like Luisa Neubauer or Jakob Blasel promote such an ecomodernist narrative, and dominate media debates with questions of feasibility, technical concerns, and the implementation of specific policy measures. Activists like Mayer (2019) spoke at businesses like Volkswagen to criticize the corporation's intentions to tackle climate change as "not enough" instead of refusing the automotive industry altogether. Along these lines, Luisa Neubauer takes a pragmatic tone in an interview when she demands a quicker reduction in coal consumption to fulfill Germany's 2020 climate commitments (Kögel, 2019). Rather than outlining a broader political program with fundamental societal change, FFF spokespersons describe FFF as a pragmatic, consensus-oriented, and "one of the most conservative" (Neubauer and Reimers, 2019) movement one can imagine.

Activists criticize that news coverage "reduces the movement to single individuals" (Mathwig, 2019) like Luisa Neubauer who are not fully representative of a broader and often more radical movement. This accounts not only for the movement's modes of protest which should not be understood as a conservative or conformist approach to raise awareness in compliance with existing rules, but as a form of civil disobedience that should be taken seriously (Mathwig, 2019). Other activists criticize the media's focus on feasible reforms, economic incentives,

and arguments to reduce greenhouse gas emissions "within the system" (Meyen, 2019) instead of more radical debates about fundamental systemic questions such as capitalism or basic democracy.

These debates about the movement's organizational strategy, political claims, and issues of leadership and representation were accompanied by a discussion about the legitimacy of knowledge claims and expertise. The leader of Germany's liberal Free Democratic Party, Christian Lindner, became iconic for a tweet where he dismissed the school protests by saying that climate politics should be dealt with by professionals, calling FFF demonstrators as well-intentioned but naïve (Müller, 2019). These children, he argued, would not understand the technological and economic constraints upon environmentalism (Tagesspiegel, 2019). In reaction to these attacks, the initiative *scientists for future* was established as a platform to back the school movement based on "secured scientific knowledge" (Munzinger and Schlüter, 2019). While supporters from early on embraced FFF for their brave demands and active engagement, opponents such as conservatives or the Liberal Party adjusted their relation to the movement—first ignoring or downplaying FFF, then attacking the students for protesting during school hours, and later embracing and acknowledging the movement in its most general way, shifting the political agenda and the public discourse to "reasonable" and "manageable" political demands in compliance with established norms and the status quo of existing institutions to weaken, silence, or delegitimize more confrontational voices (Wetzel, 2019b). These competing narratives and different aspects attached to FFF illustrate the battleground for competing emerging imaginaries of social life and political order attached to climate action.

EMERGING IMAGINARIES: MODERATE VS. RADICAL APPROACH

FFF has arguably received substantial attention in public debates. A number of politicians, commentators and environmentalists alike have celebrated FFF as an important trigger not only for more effective climate politics (Böcking, 2019) but also for broader political and societal change (Unfried, 2019a). For example, Fisher (2019) argues that no matter how effective the youth movement will be in fostering stricter climate regulations, "this growing movement will have substantial and important consequences around the world as it facilitates more active participants in democracy" (Fisher, 2019, p. 430). While such claims can hardly be substantiated given FFF's short lifetime, we should at least examine if and to what extent demands for broader political and societal change like democratization, social justice or anti-capitalism are intertwined with calls for climate action.

Urging the government to prioritize climate change as a political concern, and demanding concrete policy action instead of bold societal change represents the lowest common denominator for the movement's political demands (FFF Germany, 2019e). Yet, the public debates around FFF, as well as the tensions within the movement presented above, provide a vivid example of competing narratives around the

role of politics in FFF. Bringing these debates to the forefront shows a fragmented and not yet consolidated movement that is characterized by ideological divides and tensions between moderate demands and more radical claims. While media articles portrait *extinction rebellion* as FFF's more "radical sister" (Fahrion, 2019), several school strikers refuse such a label as they consider themselves radical in opposition to mainstream climate politics, aiming to achieve broader societal change (Konicz, 2019).

FFF has fostered not only debates about Germany's coal phase-out or the price of carbon (Duhm, 2019), but also brought topics on the political agenda that have received little attention before, including debates about flight shaming or local governments' decisions to declare a state of climate emergency (ZEIT, 2019). Although it is too early to conceptualize these narratives and positions as full-fledged, comprehensive, institutionalized imaginaries, they can illustrate the emergence and collapse of conflicting norms and worldviews in the movement. We therefore outline how these potential "alternative imaginaries in the making" (Marquardt and Delina, 2019) emerge from an ongoing debate among FFF activists and in the public sphere. Distinguishing between a moderate and a radical approach, we offer a typology to structure the various approaches offered by and attached to the FFF movement. To guide our reflection, we draw upon the seven dimensions related to imaginaries introduced above: (1) *future vision and planning*, (2) *societal needs*, (3) *risks and threats*, (4) *the state*, (5) *people and citizens*, (6) *the market, economy and development*, and (7) *science and technology*.

Future Vision and Planning

As a global movement, FFF mobilizes the idea of an uncertain future as a key driver for the protests—a livable future that is jeopardized due to older generations' inaction (Barfuss, 2019). Current political inaction is linked to dystopian visions of the future that is massively affected by climate change (Backes et al., 2019). To prevent life-threatening effects of climate change, FFF demands to phase out coal by 2030, reach 100% renewable energy supply by 2035, introduce a carbon tax of 180€ per ton and become carbon neutral by 2035 (Duhm, 2019). These technical debates are largely detached from the protestors' everyday action and motivation for a society without waste, more sustainable consumption, less carbon-intensive mobility, ideas of sufficiency, and degrowth (Schafflik, 2019). Established norms and narratives of a secure future such as the survival of key industries and jobs seem insufficient for children who feel threatened about celebrating their 50th birthday at all (Hein and Lichtblau, 2019). In contrast to a dystopian vision of a society that fails to react to global warming, the movement envisions a world that acknowledges the urgency of climate change and immediately takes action to tackle the climate crisis and guarantee a livable future on earth (Tomsic, 2019). While such a future vision can entail modes of radical behavioral (e.g., in terms of mobility) and societal (e.g., in terms of the capitalist system) change (Konicz, 2019), it can also follow a more techno optimistic rationale in line with the government's plan to reach the country's climate

goals with the help of renewable energy, energy efficiency, and technocentric reforms.

Societal Needs

Along these lines, prioritized societal needs such as economic growth, job creation, and global competitiveness are seen as compatible with a more ambitious climate action agenda by leading FFF figures such as Neubauer and Reimers (2019). Although tackling climate change should become the primary and most urgent target for society, such a "climate emergency" should work in conjunction with economic wealth and prosperity (Schwär, 2019). Such a narrative reflects the rationale behind the government's decision to phase-out coal by 2038. According to Germany's chancellor Angela Merkel, it is the policymakers' task to protect the environment, but also secure jobs in the automotive industry and avoid new social problems which can only be achieved in the transport sector through a "radical shift toward electric mobility" (Mestermann, 2019). In contrast, FFF activists question these ecomodernist priorities in society: They argue that a healthy environment becomes more desirable than solid jobs (Hecking and Klovert, 2019). Bridging both societal needs, Heisterhagen (2019) envisions an ecological industrial politics that brings together "technological, economic, ecological and social progress."

Risks and Threats

While commentators argue that FFF's "neither radical nor totalitarian" claims require Germany and the world to fulfill the Paris Agreement and "keep their promise" (Stöcker, 2019), others paint dystopian visions of Germany's future if these demands by the "children of the apocalypse" (Backes et al., 2019) should be implemented. Commentators argue that a complete coal phase-out would make a "mega blackout" similar to experiences from Latin American countries more likely in Europe (Wetzel, 2019a). While trade unions agree that climate action is needed, they also warn against the juxtaposition of climate action against wealth and job creation. A climate-neutral Germany in 2035 would threaten Germany's industry and wealth (Reiche, 2019). Against this narrative, FFF subgroups such as *Change for Future* argue that the distribution of wealth and production measures is the actual threat not only for the climate, but for societies at large (Konicz, 2019).

The State

Although FFF protestors blame recent and current government officials for their inactivity in light of the looming climate crisis, leaders of the movement underline the importance of the state to tackle climate change and express "a craving for state guidelines" (Breyton, 2019) when it comes to climate change, while at the same time, practicing civil disobedience through the school strikes. FFF protestors envision an active regulatory state that guides society toward a carbon-neutral future. They call for the implementation of stricter climate policies, carbon taxes, and incentives for environmentally friendly transportation enforced by the state (FFF Germany, 2019e). Journalists see a "paradigm shift in protest culture," where a call for more regulation and powerful state authorities substitutes the call

for freedom, as witnessed during the student protests in 1968 (Janker, 2019). While large parts of the debate concentrate on individual rights and responsibilities related to consumerism (flights, private cars, plastic bags etc.) which should be limited by state-driven regulations guided by science (Bellberg, 2019), others frame FFF as an opportunity to fight for the future of the earth, but also rethink and question the future of the political system at large (Scholz, 2019). These more radical ideas of direct and democracy were expressed by youth representatives and experts during the interviews but rarely entered the public discourse (Interview_4, Interview_5).

People and Citizens

FFF has blamed the older generations' unsustainable mobility schemes, consumption patterns, and lifestyles as the main causes for anthropogenic climate change (Gorris et al., 2019). Tackling climate change thus becomes everyone's personal responsibility and obligation. For example, non-governmental organizations and churches frame the protests as a call for reflecting our lifestyle and take action to change our consumption patterns (Witte, 2019). At the same time, the movement also fosters a debate about the role of the people in a democratic society at large. Authors highlighted the importance of basic democratic rights such as freedom of expression or freedom of assembly as critical for the movement's success (Anzlinger, 2019). Others used the school strikes and the children's active political involvement to argue for children's voting rights (Klingenstein, 2019; Klovert, 2019).

The Market, Economy, and Development

Despite their criticism toward the fossil fuel industry, leading figures of the FFF movement have signaled a general confidence in market forces and open competition to meet the climate targets. Yet, a shift toward sustainable businesses requires incentives and supportive policy mechanisms for affected companies and industries (Kögel, 2019). Green growth and ecological modernization are seen as viable solutions to sustain a market-based economy while at the same time, protect the environment. FFF representatives prominently attack big energy companies (Reuters, 2019), the automotive industry (Hägler and Slavik, 2019), and other incumbents by urging them "to do more" for a transition toward more climate-friendly solutions (Thunberg et al., 2019). In contrast, FFF's summer congress in Dortmund promoted workshops about degrowth, economic reflexivity, and post development models, outlining alternatives to the current economic system (Quecke, 2019b). Groups like *Change for Future* critically engage with the capitalistic system and portray the market as a destructive force that needs to be guided by strong environmental regulations (Leick, 2019). However, alternative models such as post-development or degrowth are rarely articulated by the protestors or attached to the movement in media. In contrast, media debates concentrate on questions of feasibility, costs, and economic benefits (Hecking, 2019a). Networks such as *Entrepreneurs for Future* see the need for green businesses such as solar rooftop installations which experienced an increased demand due to the school protests (Böcking, 2019).

Science and Technology

FFF has established strong ties to the scientific community, with both FFF and climate scientists backing up and encouraging each other (Brech, 2019). In response to early criticism toward a movement that was portrayed as a group of unprofessional laypersons and naïve students at best (Olbrisch, 2019), *Scientists for Future* was established to substantiate the students' claims, bringing scientific experts and professionals into the debate (Hagedorn et al., 2019). Framing climate science as the primary guidance for political decisions related to climate change, FFF argues that any political program, initiative, or incentive should be assessed by an independent scientific review (FFF Germany, 2019e). During the protests, students show banners with claims such as "every disaster movie start with the government ignoring a scientist" (FFF_rally_1) or "listen to science" (FFF_rally_3). Šana Strahinjić, an FFF activist, urged politicians to "please start listening to science" (FFF Germany, 2019a) in a press statement. This argument caters to the dominant narrative that grants expertise to scientists, policymakers, and businesses that need to deal with the effects of climate change. However, an interviewed youth representative highlights the importance of knowledge claims by affected people, youth and other marginalized groups as critical discontent to the science-driven discourse (Interview_2). Science and green technologies are perceived as cornerstones of societal progress and solution to current problems (technocentrism), but not as a means to an end, which is transforming society at large. Linking the protests to questions of justice, power dynamics, representation, and marginalization could "help give some depth to #FridaysForFuture's message" (Evensen, 2019, p.429).

Two Emerging Imaginaries

Although FFF provides a strong counter-narrative to youth as a passive object that needs to be protected by the adults and should not engage in the policy-making process (2010), the movement's broader societal and political implications are yet to be seen. Alternative ideas of social life and political order are discussed but remain almost invisible in the selected nationwide newspapers. Leading FFF figures like Luisa Neubauer push for more ambitious climate action and an immediate implementation of the Paris Agreement. Yet, her claims as well as FFF's official demands support not only a science- and technology-driven narrative, but also prioritize "doable" (Graw, 2019) solutions within existing social, political and economic systems over disruptive alternatives. Smaller subgroups, individual activists, and interviewed youth representatives articulate alternative visions of the future and perceive their fight for climate action as a struggle for transforming broader social norms and ideals of a good life. In their vision, FFF should not only be a point of reference for debates about flight shaming and waste reduction but also foster a shift of basic social norms and practices such as capitalism, basic democracy, or sufficiency. Yet, these radical perspectives struggle to make their voice heard against the dominant moderate claims.

Table 2 summarizes the juxtaposition of moderate and radical approaches related to the FFF movement. Although such a

TABLE 2 | Two competing emerging imaginaries: moderate vs. a radical approach.

Dimension	Core question	Moderate approach	Radical approach
Future vision and planning	What kind of desirable future society is imagined, and how should it be reached?	Future visions are rooted in a techno-optimistic rational with an emphasis on renewable energy, energy efficiency, and technological advancements. Incremental change in all societal sectors is needed to address climate change.	A radical transformation of the society is required to tackle climate change. Instead of technological advancement, behavioral and systemic change is envisioned, often linked to anti-capitalist ideas.
Societal needs	What are the pressing societal needs and issues that should be prioritized?	The need to tackle climate change is intrinsically linked to the need for economic welfare. Economic progress, wealth creation, and securing jobs should go hand in hand with climate protection and industrial transformation.	Climate emergency substitutes wealth, job creation, and economic growth as the primary societal need, substituting the dominance of economic welfare.
Risks and threats	What are the dominant risks and existential threats for society?	Ambitious climate action needs to avoid an economic collapse. Germany's economic competitiveness and generated wealth need to be protected.	Economic risks are subordinate to the climate crisis as the biggest and most existential threat to society.
The state	What role of the state is imagined?	Protestors envision an active regulatory state that guides society toward decarbonization, based on scientific knowledge. The state is the primary actor to enforce climate regulation.	The climate strikes open up an opportunity to rethink the future of the political system and the state, and promote ideas of radical democracy and people's participation.
People and citizens	What is the role of the people in a desirable vision of the future?	Individuals are responsible to tackle climate change through changed consumption patterns, adapted lifestyles, and voluntary action.	People need to make use of their political power and get politically involved to achieve systematic rather than individual change.
The market, economy, and development	What is the role of the market and development priorities in achieving a desirable future, and how should the economy look like?	Climate protection requires a shift toward green growth through market-based mechanisms and ecological modernization.	Protestors criticize a growth-oriented capitalist development model and discuss alternatives such as post-development or degrowth to combat climate change.
Science and technology	What role has science and technology in an imagined, desirable future?	Climate science is considered neutral and remains unchallenged and should become the guiding framework to assess all climate-related policies and decisions.	Scientific knowledge-making is intertwined with politics and power dynamics. The movement needs to become more political to acknowledge marginalized and underrepresented groups.

dichotomy does not give justice to FFF's diversity, it helps illuminating the conflicts and tensions within the movement.

Although contrasting a moderate with a radical imaginary remains incomprehensive, it captures the tensions and struggles between a strong focus on technologies, economic development, job creation, wealth, global leadership on the one hand, and ideas of systemic revolution, radical democratization, and anti-materialism on the other hand. While the moderate approach is characteristic for official statements given by leading FFF figures, the radical approach is less prominent in public debates. This analysis, therefore, opens up the debate about the political positions, ideas of social order, and visions of the future expressed through and attached to the movement and its claims.

CONCLUSION

Although effects of FFF on climate discourses and policymaking have been widely acknowledged (Pfahler, 2019), we still know relatively little about the movement's broader societal implications. With this work, we provide a first overview on the competing motifs, rationales and narratives not only within the German FFF movement, but also in media debates. Guided by the concept of sociotechnical imaginaries, we were able to outline the tensions between a moderate and a more radical imaginary that are emerging in the context of FFF. These conflicting imaginaries speak to earlier environmental politics

research about contested transformation pathways (Linnér and Wibeck, 2019) and competing climate discourses (Bäckstrand and Lövbrand, 2019).

Despite attempts from Marxist-Leninist groups to take over FFF for their political goals and attempts from the right to sabotage the school strikes, the movement articulates a strong aim for political neutrality across ideological boundaries (Bruhns et al., 2019). According to Emcke (2019), FFF's "inclusive and rational" nature is probably the school strikers' biggest strength. Yet, we have laid out the tensions and ideological divides within the movement and in media debates with fundamentally different or even opposing visions of a future society. Commentators, politicians and a broad range of social actors link their political claims and agendas to a movement that struggles to maneuver between ecological reforms and radical anti-capitalism.

FFF exemplifies the struggle to re-politicize climate action by reviving antagonism and a dispute over competing ideas of a livable society. Moderate vs. more radical approaches speak to different visions of a future society imagined by the young movement. On the one hand, leading FFF figures and the dominant media perception favor a reasonable, doable, science-driven and technology-focused discourse in line with a green economy narrative (Kenis and Lievens, 2017), not challenging the capitalist system. On the other hand, individuals and a few FFF subgroups point at the political and social struggles at the heart of their action. They demand transformative change

and problematize the way established institutions handle climate change. Yet, these voices play a marginal role in public debates.

These insights are not enough to fully understand FFF's disruptive nature and its potential to challenge mainstream notions of climate change. However, they lay the ground for future research in this field. Mobilizing the concept of sociotechnical imaginaries enables us to explore the meanings attached to political demands and their broader implications for social order, power relations, science & technology. It allows us to systematically engage with the co-production of social order and the visions of the future attached to political programs and initiatives toward decarbonization. A closer look at modes and strategies to politicize and de-politicize the FFF movement is desperately needed to shed light on the political programs behind FFF's call for climate action and evaluate the "post-political condition" (Swyngedouw, 2011). The work by Pepermans and Maesele (2016) on the politicization of climate change and their argument for a critical debate perspective to foster transformative change is an important conceptual point of departure. It seems particularly fruitful to investigate not only how FFF expresses ideas of societal and political change, but also how opponents can strategically absorb, integrate, assimilate, or colonize FFF's political demands and visions by modes of simplification, marginalization, or rendering radical elements of social change invisible.

FFF has brought climate change back to the forefront of the political agenda. The school strikers sparked debates about individual duties, businesses' responsibilities, and the importance of the state to tackle climate change. Yet, they largely failed to challenge the mainstream techno-optimistic, ecomodernist, and science-driven rationale behind climate action. While FFF's openness and bipartisanship has led to the youth movement's unprecedented growth, it offers little contestation to established

climate change measures. Despite the group's focus on an effective implementation of the Paris Agreement and its translation into ambitious climate legislation, more critical protestors and subgroups envision a radically different future through power shifts, forms of democratization and social justice which goes far beyond a de-politicized understanding of climate change. Exploring these forms of fundamental contestation is needed to shed light on FFF's broader political and societal effects.

DATA AVAILABILITY STATEMENT

The datasets generated for this study are available on request to the corresponding author.

AUTHOR CONTRIBUTIONS

JM designed and implemented this research, conducted the analysis, and wrote the manuscript.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: <https://www.frontiersin.org/articles/10.3389/fcomm.2020.00048/full#supplementary-material>

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