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When Aging and Climate Change Are Brought Together: Fossil Fuel Divestment and a Changing Dispositive of Security

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Abstract: Pension funds have become major targets for the incorporation of climate change into their investment decisions. Recently, divestment from carbon intensive companies or industries has been the object of a wave of campaigns directed at these institutional investors. This paper uses Foucault's dispositive of security to investigate the decisions of one organization, the New York State Common Retirement Fund, which in 2021 divested from seven oil sands companies. Conceptualizing divestment within a security dispositive helps us build theory which understands divestment within existing security-oriented arrangements. It shows how changes build upon the existing dispositive, and that by looking to existing governing arrangements we can see elements that act as operators to change their direction and emphasis. In the case of pension fund divestment, risk is the operator that both sustains the investment function and also tilts the arrangement towards climate change. In these existing arrangements lay the ingredients for future social relations.

Keywords: divestment; foucault; pension funds; dispositive

1. Introduction

> The old saw about 'how did you go bankrupt?' is apt here: Slowly at first; then all at once. Today, it is prudent to divest. It may still be prudent not to divest. However, at some point it is almost certainly going to become close to imprudent, per se, to be invested in fossil fuels. If you can imagine the point at which it became imprudent to invest in the whaling industry after kerosene began to replace whale oil for illumination, then by analogy you can perhaps get the idea [1].

> Change takes time to stabilise and, while it is always rendered so as to appear a normal and natural progression, it is difficult to think of an example when a previous dispositive was completely excluded in one single moment. The echoes of previous practice(s) endure in social relations, and one of Foucault's many theoretical strengths is in realising and incorporating this into his theory [2] (p. 200).

Both of the above quotes describe how change, even if it feels like it has ushered in a brand-new era, still happens within the context of where it emerged: often gradual, frequently piecemeal, and always leaving traces of what it replaced. Today, we appear to be in the midst of such a change in how capital markets are implicated in, and viewed as part of the solution for, climate change. One important actor in these markets are pension funds. Though they emerged historically without any connection to climate, we have seen a wave of announcements from pension funds looking to take on this challenge in the last few years: announcing 'net-zero' targets, incorporating environmental, social and governance (ESG) measurements into their portfolio management processes, and divesting from carbon-intensive sectors or companies (Recent announcements have been made by multiple pension funds worldwide. At the time of writing, many of these were tracked at https://divestmentdatabase.org/ (accessed on 16 August 2022).). In common with all of these approaches is the inter-weaving of climate change, its scientific measures and its discursive elements, into pre-existing pension management practices.

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This change has come in parallel with a fossil free divestment movement that has begun to target pension funds with more urgency and scope. Targeting pension funds to advance social issues is not new, however. Pension funds were at the forefront of the South African divestment movement in the 1980s [3–5]. They have divested from holdings tied to tobacco [6–8], weapons [9], private prisons [10], and companies linked to Israeli settlements in the West Bank [11] and the Sudanese government [12]. Many have studied divestment decisions as well as the impact and influence of movement campaigns. Scholars have begun to investigate the causal determinants related to divestment decisions, linking those decisions to the size of the fund and whether it is public or private, [13]. Since one goal of the fossil free divestment movement is reputational (to remove the social license to operate), research has looked at the impact campaigns have had on the public perception of carbon-intensive companies or industries [14–17] as well as on the financial results of firms which have been excluded from portfolios [18]. Because on-campus activism has sparked movements around the globe, some have focused specifically on the education sector, for instance in the US [19] and Canada [20]. Financial impacts on the portfolios of funds which divest have been a topic of recent interest in light of arguments for and against divestment [21]. The impacts, however, are not only financial. Ref. [22] shows how the fossil free divestment movement has influenced discourse and a rethinking of the fiduciary obligations of investors.

These decisions, and the movement itself, have been scantly theorized (but see [23] who takes a discursive, neo-Gramscian perspective on the norms related to de-legitimizing fossil fuels). Furthermore, although the decision whether to divest or not is taken at the organizational level, divestment as an organizational practice remains understudied. To develop understanding in this area, I examine the decision by the New York State Common Retirement Fund in 2021 to divest from seven Canadian oil sands companies (The companies are Imperial Oil, Canadian Natural Resources Ltd., MEG Energy Corp, Athabasca Oil Corp, Japan Petroleum Exploration Ltd, and Cenovus Energy Inc. A seventh company, Husky Energy, had been acquired by Cenovus around the time of the announcement. (https://www.reuters.com/business/sustainable-business/new-york-state-pension-fund-divests-seven-oil-sands-companies-2021-04-12/ (accessed on 16 August 2022). I place this decision within Foucault's [24] "security dispositive," a complex of material and discursive elements that dispose a population to a particular type of problematization, one which takes population-level uncertainties as its "strategic aim". I build upon [25] who traced the emergence of the defined benefit pension plan as a Foucauldian bio-political programme aimed at securing the economic futures of its members, and analyze how such a plan can respond to new targets for intervention, in this case climate change.

While not an empirically focused study, I use the empirical setting of the New York State Common Retirement Fund to show how change can happen within a dispositive of security. I outline the general shape of one of the elements of the dispositive, before and after the integration of climate. That element, investment risk management, is a critical component in the overall strategic aim of the pension plan: to secure the promised benefits for plan members. With a focus on change, I will show how the governance of the Fund began to include climate-related risk management, and how risk is the element through which climate is able to enter into the dispositive. Companies held in the Fund's portfolio became visible as 'risky' from the perspective of their climate policies; engagement with companies became focused on encouraging them to diversify from carbon intensive practices so that their climate-centered risks can be mitigated. This new focus, however, emerged through what was already there, i.e., pre-existing practices of risk management.

It is important to clarify at the outset that the notion of 'climate risk' is not straightforward. For instance, it has been discussed in terms of a subset of risk categories, where 'transition risk' includes risks to financial value of the transition to a low-carbon economy, while 'physical risk' includes the impacts to financial value from climate- and weather-related events [26] (and each of these can be further divided into categories of transition

and physical risks). It may also be conceptualized along the lines of single and double-materiality, whereby climate could be considered to have material importance when it affects the value of the pension fund (single-materiality), or in a dual sense when the pension fund's activities also impact the climate (double-materiality) [27]. Furthermore, in the context of the pension fund, these risks also additionally impact the plan members, whose retirement futures are tied to the value of the fund. Thus, the notion is difficult to pin down, and this is true even within a single setting. However, in this setting, I use climate risk in the way that the Fund itself frequently does, which generally communicates it as the risk that climate change may have on the value of the Fund's assets (which are held for the benefit of plan members). This is not a clean distinction, though, given the different possible interpretations, and I do this for simplicity of analysis. The different conceptions of risk (e.g., how the Funds mobilize and communicate transition or physical risk/single or double materiality) are important for future research to unpack.

We have learned that the organization can operate as an important site of governance in society [28,29]. My focus herein is on pension plans (and the funds set aside to finance them) as organizational entities and institutional investors with vast sums of capital under their control. Emerging from these organizational actors is a wave of divestment and climate-focused investment decisions that hail an era of change. I trace one such transformation within a security dispositive otherwise focused on securing economic futures for its members. In essence I am interested in the questions that follow from the quotes at the opening of this paper. I ask what stabilizes and what changes? What is introduced? Which forms of expertise, techniques, and relations are modified? To help us with these questions I turn to Foucault's [24] notion of the security dispositive.

This article proceeds as follows. After this introductory section, in Section 2 I elaborate on the security dispositive as developed by Michel Foucault. I emphasize how 'change' is an important consideration for thinking about dispositive analysis. Section 3 introduces some background on the New York State Common Retirement Fund, which forms the example of change that I base the essay on. The section moves on to show how this defined benefit pension plan moved from a governance structure focused on financial risk to one that began to incorporate climate change. Section 4 discusses these changes, and Section 5 provides some concluding remarks on the importance of attention to change in dispositive analysis.

2. Change in Foucault's Security Dispositive

I mobilize and develop the concept of the dispositive (In the literature, the terms 'dispositive' and 'apparatus' are sometimes interchanged, due in part to both 'appareil' and 'dispositif' originally having been translated into 'apparatus' in earlier works. I use the term 'dispositive' here in following [30]) to understand how the issue of climate change is problematized and intervened in organizational practices. Foucault used the term "dispositive" to conceptualize a way of managing and disposing a population. Ref. [24] (p.194–195]:

> What I'm trying to pick out with this term is, firstly, a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions; in short, the said as much as the unsaid. Such are the elements of the dispositive. The dispositive itself is the system of relations that can be established between these elements.

The dispositive was thus Foucault's attempt to bring non-discursive elements into his analysis of power. These elements are "everything which functions in a society as a system of constraint and which isn't an utterance" [24], (p.197]. In between discursive and non-discursive elements there is a system of relations that keeps these "joined and disjoined by a strategic logic and a tactical economy of domination operating against a background of discursive formations" [31] (p. 52]. This strategic element is central since the "role of the [dispositive] is always the same: to attempt to manage and to successfully

incorporate, subsume or at least nullify disparate and problematic events, elements, and forces" [2] (p. 200]. It is also characterized by changes in the position of its elements, the multiplying modifications of its functions, and a strategic aim, responding to an "urgent need" [24] (p. 195].

Foucault identified three types of dispositives: legal, disciplinary, and security. These are not meant to mark periods of social relations. They rather mark different ways of problematizing a concern and the different arrangements that dispose a population. The legal dispositive governs the population by making determinations on what is permitted or not through an explicit legal code. The disciplinary dispositive works by supervising and diagnosing subjects: to form them and prevent them from transgressions (or reforming them in the case of committing a transgression), often by targeting individuals in an enclosure such as school or prison. The dispositive of security positions the individual within a population through statistical technologies that aggregate data and abstracts into regularities, such as "facts," correlations, causal relationships, models and formulae (e.g., cost-benefits), and laws, which are then applied to a hypothetical future in which the subject is implicated.

These three dispositives might operate distinctly, with each "governing its own space" [32] (p. 747). However they may also intersect one another, and have a degree of "interplay" [33]. Components (e.g., techniques of intervention) from one dispositive can make their way into another. For instance, the juridico-legal dispositive is noted for its tendency to be present within regimes of discipline. Ref. [34] for instance shows that "civil law damages (work) in parallel with the Panopticon, focusing on individuals and their normalization" (p. 158). Ref. [35] (p. 138) suggests that the disciplinary tendency towards normalization "tends to be accompanied by an astonishing proliferation of legislation" in [36] (p. 542). Ref. [25] (p. 40) shows how workplace pension plans bring together the techniques and features of disciplinary and security dispositives, for instance by rewarding loyalty and 'good' employment conduct (a disciplinary feature) with access to the membership in the biopolitical and security-oriented plan.

The security dispositive that Foucault described and analysed in his lectures is aimed at the interface between the freedom of the population and the danger of a hypothetical future. The "urgent need" is how to respond to disruptive events in a way that protects a valued life by preventing the event or by returning that life to some form of normal state, albeit a normal state that is "always on the verge of disruption" [37] (p. 1098). The dispositive, then, has a continuing and necessary ongoing relation with contingency and the aleatory, but does not seek to forbid it [2], instead treating these as risks which can be managed. The security dispositive such as the one I investigate herein enables the circulations that define the personal and commercial freedoms of liberal-democratic life given the contingencies, uncertainties, and dangers (e.g., of aging) present. It does so via an "array of anticipatory logics" [38] (p. 7). Examples are found across vast swaths of modern society. For instance, pre-empting terrorism might involve identifying suspicious activity by linking data on credit card use, travel data, and supermarket purchases rather than simply stopping the circulation of people per se [38,39]. Forms of emergency planning related to extreme weather events turn these events into economic questions that try to ensure that the circulation of free subjects is maximized post-event [37] and compensate for damages to support the post-event economic situation of the affected population [40].

A dispositive is also a stabilized innovation that gains consistency and scale [41] (p. 34), and how they change is a topic of interest for researchers such as Collier, as well as Legg [42] (p. 129), who suggests that dispositives "create the conditions for their own decay, contestation and obsolescence . . . . Each state contains the traces, remnants, seeds and potential for the alternate state, and need not exist in hostile opposition." This makes change an important feature. Specifically, it draws our attention to the way "the new apparatus has to operate amidst the ruins of the old apparatus. Some of the outmoded, unwanted, or simply contradictory elements of the ancient-apparatus will be removed or reformed over time, but some elements may be retained" [2] (p. 200).

This notion of change is very important for what I want to examine here. I look for elements that act as "operators," those contingently well-positioned elements that can alter the direction or function of the dispositive. Borrowing from [43] (p. 325) who used the metaphor of a blade of grass, these are elements in the dispositive that act as "assemblage converters". These sorts of catalysts, which may or may not be implicated in foreseeable transformations, small or large, are equivalent to Serres' [44] "thermal exciter" which "inclines it. It makes the equilibrium of the energetic distribution fluctuate. It irritates it. It inflames it" [45] (p. 42). In the case of pension fund climate action, I argue that risk operates to both secure and change the dispositive, functioning as a form of a 'converter' that is able to tilt the dispositive towards climate.

Finally, in examining change, we should not only seek to know which elements irritate or alter the dispositive, we also want to find out what remains. Ref. [46] (p. 98-99) asks: "(W)hat precisely is being retained and what modulated in the 'constant' modifications of governmental forms? How are styles of reasoning, techniques, material elements and institutions put together . . . ?". Ref. [47] (p. 213) similarly suggests asking "what are the techniques used to build the governing assemblage in question . . . ? Were these techniques borrowed and repurposed, and if so, what kinds of governing effects trail in their wake?".

To summarize, the notion of the dispositive of security is an under-utilized but valuable tool for organization studies [33,48,49]. It is a "methodological device for transcending traditional analytical dualisms between micro–macro, internal–external and local–central and allows organizations [. . .] to be understood as fluid networks of elements, and as permeated by ideas and practices which are assembled and deployed by various actors" [50] (p. 528). Techniques to dispose the population are deployed through the social body, and organizations are one site where we can observe how this happens. As such, we can position organizations amidst a confluence of dispositional forces and study what is being stimulated, what is being activated, and to what end.

The current study builds on [25], who outlined how actuarially-based defined benefit pension plans operate thanks to the statistical techniques employed by actuarial science. Building upon the work of [51–53], ref [25] showed how the ideas around workplace aging, once managed individually using disciplinary techniques of observation to reveal the 'worthy' employee deserving of old age support, moved to eventually encompass an insurential, statistical, and bio-political project. Building upon those findings, in the current study I examine the defined benefit pension plan within that same statistical, actuarial and insurential framework as a security dispositive which is focused on securing valued lives from the impacts of aging while integrating climate change at the same time. In the current study, I therefore focus on change. Even though the dispositive "inclines" [45] to new accountabilities, new expert knowledge and new responsibilities, it retains its overall strategic aim: securing the economic life of the older worker, and co-ordinates this aim with new goals related to climate change.

3. The New York State Common Retirement Fund: Tilting to Climate Investment

3.1. Background

In 2021, the New York State Common Retirement Fund (hereinafter 'the Fund') divested from seven Canadian oil and gas companies, approximately one year after it had already divested from twenty-two coal companies (I later focus on the 2021 oil sands divestment as it was the most recent decision taken, though the two decisions were based upon the same process). Divestment, then, was seen as a viable approach to considering climate change in relation to the Fund. In this section I will situate the divestment decision within the organizational practices designed to operate and sustain the Fund in a security dispositive focused on the economics of aging.

The Fund invests the contributions made by both employers and plan members of the New York State and Local Retirement System, which in 2021 marked its 100 year anniversary and was valued at $258 billion, and paid out $14 billion in benefits. As of 2021, it had more than one million members and 3000 employers, representing state

and local government, school districts, police and fire, and other governmental corporations and entities operating outside of New York City, which has its own retirement system ([54] (p. 13)).

The Comptroller Thomas DiNapoli, as Trustee of the Fund, is responsible for the investment of all assets under a fiduciary obligation to manage the Fund in the interests of plan beneficiaries. The Comptroller adopts investment policies with advice from the Chief Investment Officer, other staff, in-house and outside counsel, consultants and investment experts, as well from the members of various advisory committees (Figure 1). Expert knowledge, embodied in a proliferation of internal and external roles, sustains the dispositive. Various reporting relationships knit this structure together, facilitated by a proliferation of regulatory, financial, and investment reports. These include the Climate Action Plan 2019, Progress Report 2021, and Annual Reports.

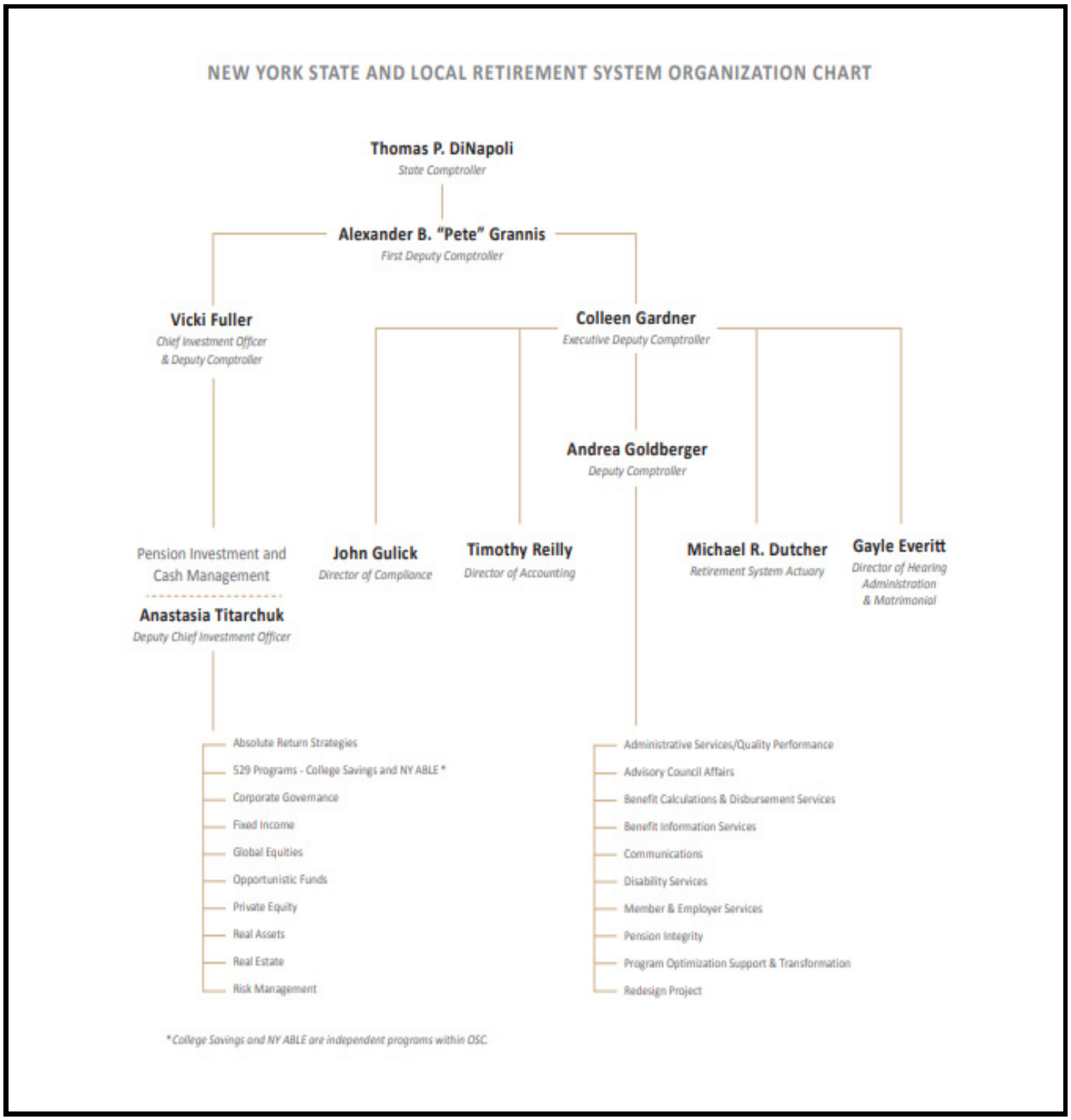

Figure 1. New York State and Local Retirement System Organization Chart—2018.

It is important to situate these investment practices within the dispositive. They are part of, and operate among, the elements of a dispositive of security that is grounded on the statistical management of the risks of aging. As set out in [25], pension funds are brought together with statistical data at the population level produced by actuaries. For instance, in relation to retirement, they collect data on workers' propensities to get promoted, leave their jobs, obtain wage increases, and become disabled. They further classify this data by sex, industry, and geography, among others, and produce an actuarial "table" such as a life table, mortality table, or service table. Actuaries combine these data with other assumptions about future rates of inflation, interest rates, and demographics. In short, assumptions about individuals' lives are combined with economic assumptions, connected and repurposed into the metrics, calculations, and data that sustains and supports the pension system. The programme is fundamentally actuarial and insurential [51,53].

Investment practices are a crucial element in providing this insurance. The promised benefits are funded by a pool of assets and, theoretically, the relationship is simple: the more income that is earned on assets, the less that needs to be contributed to fund them. Hence, taking investment risk with the assets is considered to generate a more cost-effective and efficient programme. The dispositive, therefore, mitigates the uncertainties of aging through statistical technique, and maintains the efficiency of the overall cost by risk-taking in the investment markets. Thus, multiple risks circulate in the dispositive, including those related to investment.

In sum, in a pension plan, much as described in [25], individual uncertainty around getting older is transformed into population-level economic risk. This data, created through the enrollment of particular forms of actuarial expertise, inscribes the worker's life and makes it visible, marking an aggregate population for intervention. Uncertainty is managed by encouraging the organization to set aside cash today to prepare for benefit outlays in the future, and investing that cash in the financial markets to help the organization benefit from investment income. What follows is a proliferation of practices, routines, and expert knowledge devoted to the management of the related risks. The point is not to eliminate the risk, for that could be achieved through divesting from the markets altogether. It is, rather, to profit through risk, and to manage the circulation of risk by developing a "bandwidth" [55] of acceptable and unacceptable results. That bandwidth is developed and managed through a governance structure.

3.2. Plan Governance

I begin with the elements of the financial risk management that existed prior to the development of climate risk management. The Fund is governed according to the following structure, showing the state Comptroller at its head and a hierarchical accountability framework prioritizing formality, reporting, audit, and control. In Figure 1, the structure in the year 2018 is shown, prior to the incorporation of the climate framework [56].

Investment uncertainty is managed by taking "prudent" risks when this is compensated by higher expected returns. Thus, risk is never permitted to be unwieldly, rather it is allowed to circulate while subjected to tolerance levels. We can view how this guiding theory is operationalized in the following set of instructions. Here the Fund deals with risk by doing the following:

- Establishing a clear risk appetite that sets out the types and levels of risk it is prepared to take;
- Having risk management and compliance policies in place that set out authorities and responsibilities for taking and managing risk across CRF and its asset classes;
- Seeking to establish resilient risk constraints that promote multiple perspectives on risk;
- Actively monitoring risks and taking mitigating actions when they fall outside of acceptable levels [54] (p. 87).

The above list reveals several important points. First, certain risks are permitted to circulate; others are not, and this bandwidth is expressed through an 'appetite' and 'accept-

able levels'. Second, risk implies responsibilities: certain actors will be held accountable for taking—and managing—them. Third, risks are to be made visible in different ways, highlighting how the dispositive actively illuminates different risk objects. They are made visible via reports, calculations, and graphs that construct what is 'normal', creating the conditions for intervening in the name of controlling risk. Where to draw the line for each of these assessments requires normalization emerging from experts and techniques that help define the norms applicable within the dispositive ([36] (p. 550)).

Overall, then, the general shape of this element of the dispositive is one of investment risk management, enacted through a governance structure with investment, legal and audit expertise, and the measurement and visibility of the investment risks that the Fund takes on. Against the backdrop of this element, the Fund in recent years came under increasing pressure to divest its carbon intensive holdings. For instance, Fossil Free New York and other groups began to advocate divestment from the Fund. In 2014, 130 people delivered a petition with more than 11,000 signatures to Comptroller DiNapoli, and another letter was sent in 2016, both demanding divestment. At the same time, the Fossil Fuel Divestment Act, (and related bills) was making its way through the New York State legislature. The bill would heavily restrict investments in carbon intensive companies. If divestment, or consideration of divestment, were a possibility, it would have to occur within the pre-existing structures of the Fund. In other words, the dispositive would have to change to incorporate climate into its risk mitigation practices.

3.3. Introducing Climate to the Dispositive

How did the pension plan change and begin to incorporate climate change? It did so through the lens of risk. As already indicated, investment risk is one such risk that circulates because it is viewed as valuable, a way to reduce the cost of providing pensions. However, a security dispositive can be "expansive" [25], as more and more practices emerge to measure, contain and manage risk. This expansive nature allowed climate change to emerge as another risk to be managed.

In 2018, DiNapoli co-created an advisory panel comprised of climate and investment experts tasked with developing a plan to address the climate, and released the *Climate Action Plan*, which laid out the Fund's "Climate Beliefs" as well as processes and practices oriented along three categories of actions, which focused on the following:

- Identification and assessment: related to developing tools, measures, data, analyses, etc.
- Investment and divestment: related to investing in sustainability-focused and divesting from carbon-intensive companies;
- Engagement and Advocacy: related to creating a watch list, engagement with shareholders as well as others such as data providers, policy makers, and the public, [57]

The list shows how practices changed. New measures, new targets, and new conceptualizations of companies as centres of climate risk were developed. Of course, the impacts of climate change on the portfolio could be eliminated (or drastically reduced) by simply removing all carbon-intensives companies from the portfolio. For instance, the plan could exclude entire industries or sectors, meeting the demands of those who had advocated for total divestment. However, the Action Plan dismissed this approach:

At this time, broad-based fossil fuel divestment by the [Fund] is not consistent with the Comptroller's fiduciary duty, and would not be effectual for either risk reduction or broader climate change mitigation [57] (p. 2).

We know that a security dispositive is focused on the circulation of risk rather than its complete elimination. Instead of focusing on eliminating fossil fuels, the Fund would develop thresholds for greenhouse gas (GHG) emissions targets (and other climate metrics). Practically, to accomplish this change, the Fund created a new site of expertise, hiring new staff and creating a new Director of Sustainable Investment and Climate Solutions. A newly formed team included investment, legal, risk, environmental policy and operations expertise to implement the *Climate Action Plan*. It engaged consultants and data providers, since with the introduction of a suite of new measures, targets and benchmarks,

the need for data related to climate became enormous. This new structure is visible in the revised Organization Chart, in Figure 2, which by 2021 shows the Director of Sustainable Investments and Climate Solutions reporting to the Deputy Chief Investment Officer, Chief Investment Officer, and State Comptroller [54]. Climate risk was now folded into and alongside all of the pre-existing investment governance techniques, processes, and expertise.

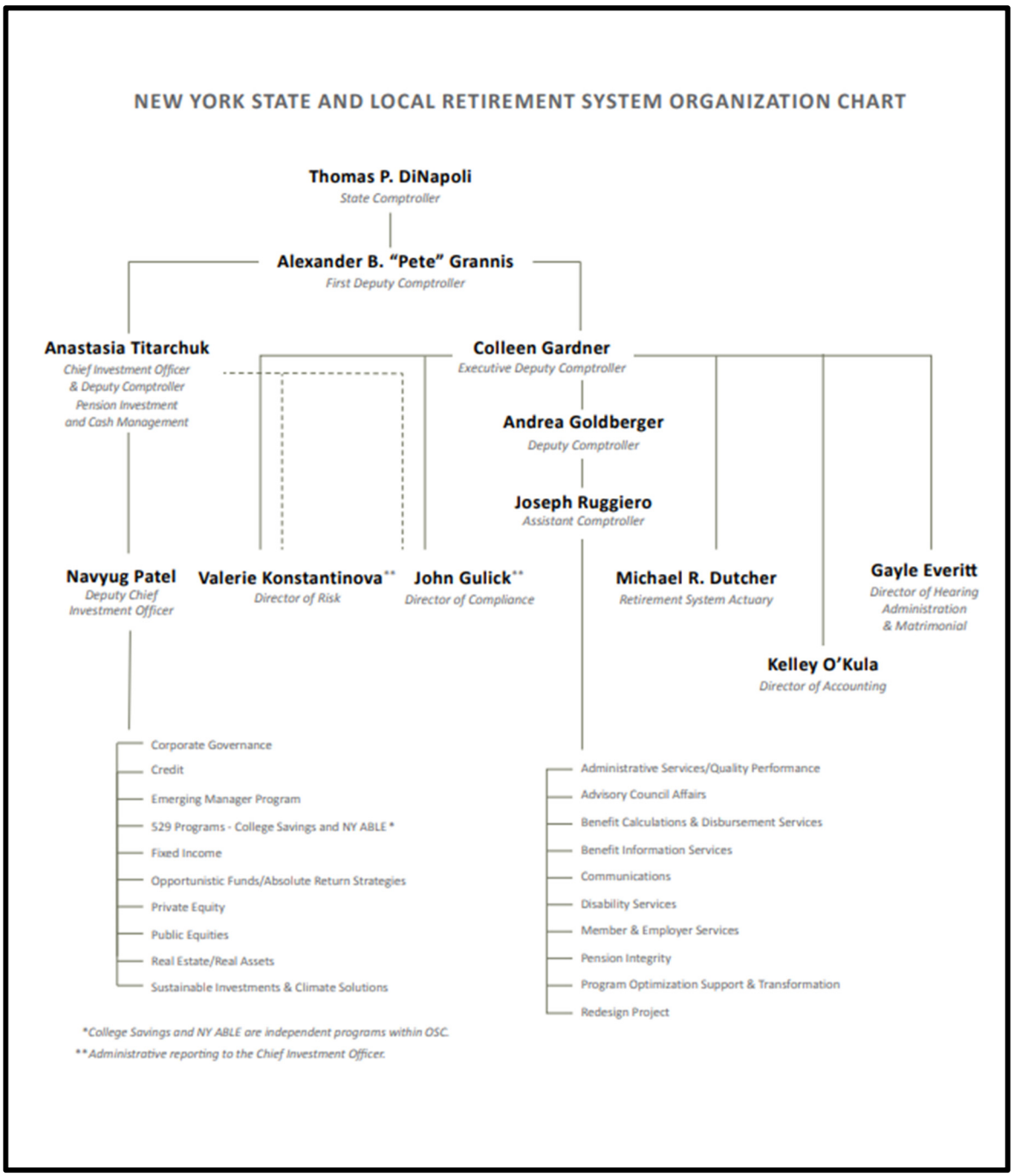

Figure 2. New York State Local and Retirement System Organization Chart—2021.

Climate risk was made newly visible through new metrics and measures. For instance, the Fund began to track the carbon intensity of the total portfolio, and announced a "net-zero emissions" target by 2040, which was made actionable by newly measuring the scope 1 and scope 2 carbon emissions of its global equity and corporate fixed income portfolios.

The Fund created "Carbon Value at Risk (VaR)", based largely upon pre-existing Value at Risk concepts already common across portfolio evaluation, retooled to assess carbon prices, technology, and fossil fuel demand on investee companies, and integrated company carbon dioxide (CO_2) emissions into pre-existing company financial analysis. On the whole, the risk that carbon measures would fall above certain targets emerged as an important possibility, but importantly, one which was not totally eliminated.

The Fund not only tolerated climate risk, it also considered climate risk as an opportunity. It created a Sustainable Investment-Climate Solutions Program (SICS), which was expressly based upon its pre-existing Emerging Manager Program, and allocated up to $20 billion USD to it. Its goal is to find investment opportunities which will enable the Plan to profit from the climate transition. One example of SICS investments in climate solutions is described below:

> NREP Fund IV ($300 million commitment by the Fund) is a Copenhagen based, opportunistic real estate strategy making investments in the Nordic region that meet high-energy efficiency standards. The manager's investments use sustainable materials and upcycling to reduce the carbon footprint of their building materials. NREP has committed to 100 percent renewable electricity for all of its buildings by 2025, net-zero emissions for its new construction by 2030, and net-zero emissions across its portfolio by 2050, [58] (p. 7).

Up to now I have emphasized the defined benefit plan as a security dispositive. As described earlier, however, dispositives may intersect or incorporate different features into a single dispositive. Disciplinary technique, for instance, would focus on observation and reform. The excerpt below shows how disciplinary measures operate within this security dispositive. Rather than simply accepting the climate risk presented by individual companies as a given, the Fund instead encouraged and rewarded 'proper' conduct such as using renewable energy and reducing emissions. The Fund observed and guided investee companies to disclose and reform their practices in this direction, as shown in the following report:

In 2020, the Fund filed three proposals to companies requesting that they set targets for the increased use of renewable energy and energy efficiency at their facilities. The Fund secured agreements with all three companies: Texas Instruments, Qorvo, Inc., and Microchip Technology. The Fund also filed a shareholder proposal with Fluor Corp., asking the company to adopt company-wide targets for GHG emissions, taking into consideration the global GHG reduction needs defined by the Paris Climate Agreement. Fluor agreed to adopt such GHG targets and the Fund withdrew the resolution, [58] (p. 12).

Not only can disciplinary interventions operate within a dispositive of security, it is at the intersection of the disciplinary practice of observing and reforming, with the risk-based practice of investment management, that divestment was able to emerge as a tool to deal with climate. The Fund allowed for the free circulation of carbon-emitting firms, but turned an enhanced gaze onto them, making their individual company practices within that high-risk industry subject to normative claims. First, the Fund turned a disciplinary gaze onto companies in its portfolio that fell within "high risk sectors" (as defined by the TCFD). The first such sector was thermal coal, and it invited twenty-seven thermal coal companies to explain their transition to low carbon processes. Twenty-two failed on these counts and were divested from the portfolio, [58] (p. 9).

The second group assessed in 2021 were companies with significant revenues from crude oil production from oil sands. The Fund assessed nine oil sands companies on a series of indicators. These included their strategies to shift away from oil sands production and identify opportunities consistent with the Paris goals, capital expenditures that reflect transition strategies, corporate emissions targets in line with the Paris goals, the percentage of revenues in low carbon/green businesses, and corporate disclosures in line with the TCFD. The analysis concluded that seven companies failed to meet the minimum standards related to these indicators, and they were divested [58] (p. 10).

On the whole, divestment made its way into the dispositive through risk. Before divestment was considered in a serious way, risk tools which had previously been used in the governance structure had to be newly harnessed to incorporate climate change, planetary warming, and emissions. The risks associated with corporate activity: their operations in certain sectors, their plans to diversify from carbon, their emissions targets, how they spent capital, what they disclosed, and more, were constructed, captured and made visible. Companies were evaluated, and when not brought in line with desired ceilings, they were removed. This could happen only with new forms of expertise, new actors, new quantification measures, and new discursive elements aligned with planetary goals orienting the dispositive in a brand new direction: one which was tilted towards investing in alignment with the Paris Agreement, lower emissions, and higher investments in renewable energies. Risk, and its various tools of management, were the operator which propelled the dispositive to incline, even if incompletely, towards climate.

4. Discussion

The notion of dispositive is well-suited to investigate change, and particularly sensitizes us to investigate change through an "analysis that brings out the 'shift of emphasis' rather than the 'substitution'" [48] (p.13) citing [55] (p. 373). One in which "[t]he echoes of previous practice(s) endure in social relations" [2] (p. 200). In this study we observed the shift of emphasis in the Fund as it incorporated planetary warming into a dispositive aimed at the financial uncertainties associated with aging. These two prima facie unrelated needs were nonetheless brought together in a careful re-orientation of organizational practices related to risk-taking and risk-management. We saw how risk is made versatile; much like the Deleuze and Guattari's [43] "operator", it served as a vector, one which shifts its emphasis to climate risk and newly illuminated what was hitherto unconnected to pension investment.

Here, we saw how the New York State Common Retirement Fund was, and is, laser-focused on the economic uncertainties associated with aging. Actuarially produced data about the population, with its focus on aggregation and statistics, is the foundation upon which this pension plan rests. Its investment is carefully managed to harness investment risk and sustain the overall strategic aim. When the dispositive was mobilized to take on a new problem of the era, the elements which produce this original stability remained, but changed in form, tilting the dispositive to its new shape to be jointly focused on aging and climate change. Actuarial and investment techniques to profit from, yet control, risk taking, were not discarded, they were remade. Tools originally constructed to assess and manage thresholds were connected with new ones so that climate could be visualized and thus interpreted. Decisions around investments were transformed to account for carbon intensity, creating new 'problem' sectors. New ways of imagining assets ('high carbon', and thus, worthy of direct engagement, or 'low carbon', thus profitable and sought after) were constructed. Furthermore, portfolio-level metrics which had formerly focused on rates of return now included the timeline to net-zero and GHG emissions. It is through these pre-existing calculative techniques, working from the "ruins" [2] of the "failed" model that the dispositive becomes newly acceptable (and not failing) (See [59] for a discussion of how some projects are discursively considered to have a fundamentally failing design.). The implications of viewing change in this way are many.

First, it not only shows us what is valued, it also reveals what becomes "pathological" [38]. For Foucault, a dispositive of security purposely "lets live" all those within it, optimizing their environments to increase their potential for success rather than removing those who are unsuccessful. However, as [38] (p. 13) points out: "As Foucault hints, tolerance is conditional. Individuals or practices that do not fit with the market are devalued. Moreover, a new pathological figure emerges: the individual or group that makes the wrong choice and is forced to take individual responsibility." In a dispositive of security focused on a new strategic aim related to climate change, the climate-risky company, newly constructed, illuminated, and normalized, becomes a new pathological figure.

Second, we can see *how* these pathological figures are acted upon within a security dispositive. Disciplinary techniques connect to, and respond to climate within, a security dispositive through processes of illumination and visibility. The dispositive "structures light in a particular way, thus creating objects which depend on it for their very existence." [33] (p. 480). The climate-risky company does not exist except in the light of the tools and techniques of this dispositive. And while carbon intensity is viewed not as something to be eliminated entirely, it is made visible down to individualized, disciplinary, company practices.

Third, we know that different forms of dispositive (legal, disciplinary, security) can co-operate and connect [32]. Since a security dispositive does not eradicate the problem, but rather is concerned with the probability of its occurrence, looking for an optimal average and a ceiling for the phenomenon, this implies that there comes a point at which outliers are subject to removal in order to maintain the desired ceiling. Instances that remain within that limit are permitted to remain within the dispositive. The "bandwidth" [55] implies the need for an adjustment in order to maintain its optimal level. Here, that adjustment operated at the individualized, normative level where disciplinary interventions were called upon to pave the way for removal. Engagement with companies to 'reform' their practices to meet thresholds (a disciplinary intervention focused on specific companies, with specific suggestions and recommendations for reform) continue until such point as the Fund deems that the companies are not adequately improving. Hence, discipline becomes a tool to sustain the security dispositive.

Yet it is not only discipline and security that connect. Legal elements related to the fiduciary duties around the security of promised benefits operate in a juridico-legal framework wherein the law deems acceptable/not acceptable the integration of non-financial factors into investment decision-making. In the new shape of the dispositive, those legal elements are not discarded. Indeed, they remain, but the practices and communication from the Fund suggest that, in the eyes of Fund managers at least, such legal guidelines have been broadened to include climate change as a risk that should be considered in order to meet fiduciary requirements.

Fourth, we saw how the dispositive "conditions" what is possible [60]. The dispositive delimits, excavating "breeding spots" for our present thinking, [61] (p. 1063). In a security dispositive, with its heightened focus on risk and the aleatory, it is perhaps no surprise that climate change gains traction (only) once it can be treated as a risk. However, this makes it more difficult to talk of climate in other terms. Through the lens of the Foucauldian dispositive we can see and come to expect these challenges. This constraint around what is the 'correct' way to think about climate may not exist in other forms of intervention (legal, disciplinary) where activists, legislators, and the public who occupy different relational positions might consider climate in a way that characterizes climate change not as risk but in terms related to, for instance, justice, science, nature, or rights, to name but a few.

Fifth, security dispositives are constructed around expert knowledge; here was no exception. While the original framework considered aging within a constellation of actuarial and risk management practices, re-orienting the dispositive towards climate saw the mobilization of new staffing, consultants, data providers, and scientific expertise. While these may appear to be relatively minor changes, they are important. Ref. [62] (p. 244) suggests that one important activity of the "managers of unease" is how they construct the risk field itself and the parallel construction of expert knowledge in that field [63,64]. We are at the very early stages of understanding how climate knowledge is folded into a dispositive whose dominant expertise has been actuarial and financial. Careful attention is warranted in terms of how a shift in emphasis of the dispositive begins to reshape which knowledge is privileged, and in which ways.

Finally, understanding how the dispositive conditions responses can help us to illuminate how interventions can be considered to be partial. In this case, the defined benefit plan, highly focused on securing the benefits to be paid to its members, addressed climate change in a way that did not fully meet the demands of activists who advocated for full

divestment from fossil fuels. Rather, it only divested a portion of its total portfolio, concentrating its risk analysis efforts on its equity holdings in public companies. It also introduced metrics to assess Scope 1 and 2 emissions, but not Scope 3. The challenges around Scope 3 measurement means they do not fit easily into the risk-based risk management practices. These illustrate the tensions of trying to bring new focal points into existing dispositives, echoing [2] that "(t)he echoes of previous practice(s) endure" in new shapes and forms.

5. A Need to Understand a Changing Security Dispositive

Work on security is timely. We live in an era when the proliferation of risk techniques and expert knowledge has made many aspects of our lives amenable to securitizing. For instance, since 9-11, a great deal of research has been devoted to analysing the many ways in which the circulation of people has been administered in the name of securing these flows of individuals [65]. Understanding how these different fields of security operate is of current importance since they work on both our physical and economic security in ways that are not always visible.

One of the aspects that we know little about, and the focus of this paper, is how these dispositives of security change. What, indeed, is "left in [the] wake" [47] of a new governing dispositive? This paper has been a modest attempt to show where to look for these changes. A warning, though, related to change, is to be found in a defining feature of the dispositive of security, which is that the "number of activities, practices and institutions that come to be framed in security language is centripetal and continually increase" [62] (p. 253). As the proliferation of such practices results in a dispositive of security that is increasingly focused on new and ever-expanding risk, the subject of its "urgent need" [24] (p. 195) becomes less clear, even obscured [62]. More and more compliance routines are adopted in the name of security, and the dispositive increasingly becomes focused on finding more things that "might be governed in the name of security" [62] (p. 249). Thus, even if climate is front and centre in some other modes of intervention, in a security dispositive, it risks becoming de-centered, while the proliferation of the practices, techniques, measurements and busy-work are foregrounded.

There is a need for more work on how dispositives change, since, precisely because a dispositive is under continual problematization and reformulation, it is also where we can look for the future. Ref. [66], speaking of climate change, posits that, " ... if we are to imagine alternative climate futures, perhaps we must learn to identify their possibility *within* these assemblages," (p. 62, emphasis in original). We must look at the elements of the dispositive already viewed as important, as well as those which receive little attention, to find those which might alter its future course.

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