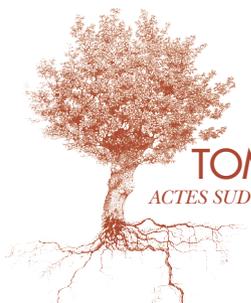




**LIONEL ASTRUC**

**VANDANA SHIVA**  
CREATIVE CIVIL DISOBEDIENCE



**TOMORROW**  
ACTES SUD

*"This environmental activist, alterglobalist, and feminist is tirelessly traveling the globe to defend the cause of small-scale farmers."*

L'Obs

## PUBLISHER'S POINT OF VIEW

An icon worldwide for the ecological revolution and a leader of the alter-globalization movement, Vandana Shiva has made teaching by example the basis of her work. Walking the back roads of India alone in the late 1980s in search of traditional seeds threatened by industrial agriculture, she returned leading a procession of 500,000 demonstrators, farmers and activists, and with a network of 120 seed banks in place. Her initiatives have borne fruit on five continents and her legal proceedings against multinational corporations have earned her numerous awards, including the “alternative Nobel prize.” Wrapped in her timeless sari of artisanal cotton, she calls upon each of us to become that “little nobody” who can reverse current trends.

A doctor of quantum physics and philosophy, her history is marked by commitment, body and soul, to a country currently torn by an intense war for raw materials.

Why is a major paradigm shift likely in the coming years? What role should we play? How does abundance for some and scarcity for others result in the loss of food sovereignty for everyone? What is ecofeminism and how does it represent a major opportunity, for men as well as women, and for the planet?

This series of interviews alternately addresses both the major challenges of today and the epic journey of this successor to Gandhi.

*Lionel Astruc has written several books exploring the raw materials sector in France and worldwide, and highlighting the pioneers of the ecological transition. He is also the co-author with Rob Hopkins of The Transition Starts Here, Now and Together, published in 2017.*

## TOMORROW

The profound crisis affecting our societies is obvious. Ecological disturbances, social exclusion, the rampant exploitation of natural resources, the frenetic and dehumanizing quest for profit, and the widening of inequalities lie at the heart of our contemporary problems.

Nevertheless, men and women everywhere are coming together around innovative and original projects with a view to opening up new prospects for the future. There are solutions. Novel proposals are being made all over the planet, often on a small scale, but always with the aim of bringing about real change in our societies.

**VANDANA SHIVA  
CREATIVE CIVIL  
DISOBEDIENCE**

## In the same series

Cyril Dion, *Tomorrow*, 2017.

Emmanuel Druon, *Ecolonomy*, 2018.

Rob Hopkins and Lionel Astruc, *The Transition Starts Here, Now and Together*, 2017.

Pierre Rabhi and Jacques Caplat, *Agroecology: An Ethical Life*, 2018.

Pierre Rabhi, *The Power of Restraint*, 2017.

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DISOBEDIENCE**

**INTERVIEWS**

TRANSLATED BY SHANNON DE VIVIÉS

*TOMORROW  
ACTES SUD*

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# FOREWORD

My first encounter with Vandana Shiva was a cold shower. I joined her one morning in April 2010, at a trial that was being widely covered by the Indian media. Her hurried and chilly welcome, her manifest disregard for our schedule left me exasperated. Everyday at the time planned for our interview, she was either absent or slipped right under my nose, jumping into the back of a car and disappearing without warning. A half hour later, I would see her face pop-up on the television screen. On CNN, haughty and impeccable in her sari, she would flash a determined look at her interlocutors and launch into her relentless arguments. After three days, I threatened to return to France. Silent at first, Vandana's demeanor then changed radically. This woman welcomes frankness, and hates nothing more than affability. Since then, our relationship has continued to improve and through our exchanges, has transformed into friendship.

I eventually understood my initial mistake. In recent years, defending the environment in India has become a conflict of unprecedented violence, with its share of burned villages, abductions, displaced populations, and torture. Vandana Shiva's office in Delhi is an entrenched camp with no place for niceties and small talk. The raw materials war raging in central India has already killed several thousand people. Further west, there is a new wave of suicides every year in the cotton belt of the subcontinent. There, an increasing number of farmers strapped with debt resort to killing themselves (more than 284,000 between 1995 and 2012), often by drinking the very pesticides that ruined them. The daily reality of Vandana Shiva is thus one of total engagement in a struggle where every hour is counted in acres of plundered land, in families expropriated or ruined, and ultimately in human lives. Every year lost, benefits the lobbies and brings us closer to the point of no return, with respect to climate change, biodiversity and the depletion of resources.

Today, between any two conferences, trials, or demonstrations, Vandana is no longer surprised to find me seated at her side on

a plane, train, or when she tries to take refuge, a cup of chai in her hand, on the terrace of her ecological center. With an amused look, she reprimands me in advance for taking too much time out of her schedule. Yet she welcomes me with a complicit smile, ready to entertain my questions, engage in conversation, and open the doors to her life, her family, and her professional and political entourage. May this exceptional personality fascinate you as much as she has me.

LIONEL ASTRUC



**PREFACE:  
FOOD SOVEREIGNTY AND AGROECOLOGY**

Vandana Shiva is calling for “seed disobedience”, that is, civil disobedience in the fight for seed freedom. Disturbed by the concentration of power among a very small number of seed companies, she denounces this most perverse consequence of the “green revolution,” a model for which India has been a privileged testing-ground since the mid-1960s. She offers alternatives: agroecological production practices, and the reinstatement of food sovereignty. It is thanks to her friendship and that of Lionel Astruc, that I am able to situate this struggle in a broader historical context, and in doing so, clarify its meaning.

Since the birth of agriculture nearly eleven thousand years ago, agrarian men and women have domesticated plants. They learned the slow work of improving plant varieties, from one harvest to another. By gathering seeds for the season to come from the most remarkable plants of the past harvest, they progressed little by little in selecting the most robust and nutritious plants, best adapted to their environment. The work of humans accelerated the work of nature; it steered the course by privileging, through plant selection, the qualities judged to be most useful.

The beginning of the twentieth century marked the debut of the separation of breeding plants from the work of farming. Specialized firms emerged, whose specific mission was to carry out this selection work. Over time, these firms, ancestors of today’s seed companies, developed new techniques, such as marker-assisted selection, which considerably reduced the time required for the introduction of new varieties by rapidly sorting large numbers of plants at an early stage in the breeding process. Hybridization, another technique, consists of combining the genetic characteristics of several varieties. From the 1920s, farmers in wealthy countries began buying their seeds, which were either manufactured by these commercial enterprises, or the results of public research. This division of labor saved precious time and was thus seen as part of the broader process of the

industrialization of agriculture, which at a time when the exodus was accelerating, seemed to represent the direction of progress.

A century has passed, and with the continued expansion into developing countries of a model that emerged in industrialized countries, new questions are inevitably being asked. Among the most urgent, is that of the concentration of power in the hands of a relatively small number of seed companies. The increasingly dominant model, in which plant breeding is entrusted to private firms, seems to automatically lead to this concentration: agronomic research is very expensive, requiring substantial investments without guaranteed results, and necessitating the availability of a wide genetic stock. Research is motivated by intellectual property rights that are acknowledged by the firms involved, but only the most robust seed companies can make the type of investment required, and acquire the necessary expertise. Size is a decisive advantage in the markets. In 2008, the ten largest seed distribution companies accounted for 67% of the global market; Monsanto, the leader, alone accounted for 23% of this market, and the leading trio (Monsanto, DuPont, and Syngenta) 47%, including 65% of the corn market and more than half of the soybean market. In addition, the rights of these firms to the products of their research have been progressively reinforced by a series of multilateral accords or, increasingly, bilateral agreements. The International Union for the Protection of New Varieties of Plants (UPOV), established under the auspices of the International Convention for the Protection of New Varieties of Plants, has played a decisive role. This convention, which came into effect in 1968, has been amended several times in order to strengthen the rights of plant breeders.

The worldwide dissemination of the seed model that has accompanied the development of industrial agriculture in wealthy countries threatens the very existence of the so-called peasant seed systems, upon which the majority of small farmers in countries of the Global

South<sup>1</sup> still depend. In these systems, the seeds that are gathered after each harvest are conserved for the growing season to come; they are sometimes exchanged with neighboring farmers, or sold to them at prices considerably lower than those of commercial seed companies. These seed systems fulfill essential functions. They promote agrobiodiversity, or the progressive development of traditional varieties that are often very well adapted to the specific agroecological environment in which they are born and developed. They enable small farmers to have access to seeds that are more likely to meet their needs than those developed by seed companies, at a lower cost, and, consequently, with less risk of dependence and indebtedness. Yet, the expansion of modern commercial seed systems threatens the survival of these agrarian systems. Not only do farmers not benefit from the same protections accorded to commercial varieties, in the form of intellectual property rights, for the seeds they conserve and select,<sup>2</sup> but the rapid expansion of the industrial model of production and distribution of seeds often occurs through the adoption of regulations that prohibit the diffusion of seeds that are not registered in the official seed catalogue, which is certified by the authorities in order to protect buyers.

These dangers are now being increasingly recognized. To counteract the impact of the privatization of genetic resources, the International Treaty on Plant Genetic Resources for Food and Agriculture was drawn up in 2001, and came into effect in 2004. This treaty is revolutionary in many ways. It breaks with the logic behind the

1. The Global South is a term in current use internationally to refer collectively to countries of Latin America, Africa, and Asia that have been historically labeled underdeveloped or developing, third world, etc. The Global North includes the United States and Canada, Western Europe, parts of Asia, Australia, and New Zealand. The intent in using “countries of the North or South” is to avoid the hegemony inherent in categorizing countries solely on the basis of their economic and developmental status.

2. The UPOV convention protects the rights of the plant breeder provided that the variety developed is new, distinct, homogeneous, and stable (Article 5.1). Because it requires homogeneity and stability, the UPOV convention does not protect traditional farmers’ varieties, which are by nature unstable and constantly evolving.

1992 convention on biodiversity, which, in order to combat the risks of biopiracy, treated genetic resources as the property of the state where they are located. In contrast, this treaty agrees to consider an ensemble of plant genetic resources for agriculture and food, as a global public good that the states can make available to one another, in order to promote agronomic research. In addition, the International Treaty recognizes farmers' contribution to agrobiodiversity.<sup>1</sup> It even affirms the rights of farmers including: the protection of traditional knowledge relevant to plant genetic resources for food and agriculture; the right to equitably participate in sharing benefits arising from the utilization of plant genetic resources for food and agriculture; and the right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture (article 9.2).

But this is not enough. The so-called rights of farmers are subject to the good will of the states, whose implementation of article 9 of the International Treaty remains inadequate. And these are still mainly rights without recourse. For this reason, the Declaration on the Rights of Peasants and Other People Working in Rural Areas, discussed since 2013 in an intergovernmental working group of the Human Rights Council after being proposed by the international peasant movement, La Via Campesina, merits attention. Article 5 of this draft declaration concerns the right to seeds. It begins by recalling, "peasants have the right to determine the varieties of the seeds they want to plant," and "to reject the varieties of plants which they consider to be dangerous economically, ecologically, and culturally," as part of the broader right to "reject the industrial model of agriculture" (§ 1 and 3). It also states that "peasants have the

1. See article 9.1 of the International Treaty: "The Contracting Parties recognize the enormous contribution that the local and indigenous communities and farmers of all regions of the world, particularly those in the centres of origin and crop diversity, have made and will continue to make for the conservation and development of plant genetic resources which constitute the basis of food and agriculture production throughout the world."

right to grow and develop their peasant varieties and to exchange, to give or to sell their seeds”(§ 8), which is a way of affirming the need to protect traditional seed systems.

Beyond these institutional responses, whose long-term impact remains to be seen, social innovations are developing in the field as alternatives to the dominant model. These are spaces of resistance, and it is in this same spirit that Vandana Shiva set up seed banks. These banks are intended to save peasant seed systems from the erosion threatening them, by promoting the exchange of seeds, as an alternative to farmers’ dependence on “improved” commercial varieties.

In the end this amounts to reclaiming food sovereignty, particularly through the dissemination of agroecological practices. Agroecology results from the intersection of agronomic sciences and ecology. It identifies a set of agricultural production techniques that aim to make more efficient use of resources, so as to better integrate agriculture into the ecosystem and reduce the ecological footprint of agricultural production. For farmers, this consists of seeking to imitate nature in their fields. It focuses on the complementarities between different plants and animals, and recognizes the complexity inherent in natural systems. It rewards intelligence and inventiveness, where industrial agriculture seeks to break nature down into its elements and simplify, even if it makes it monotonous, the task of farming. Agroecology views agriculture not as a process that transforms inputs (fertilizers and pesticides) into agricultural products, but rather as a cycle, where the waste that is produced serves as an input, where animals and legumes are used to fertilize soils, and where even weeds perform useful functions.

And, above all, agroecology is a way of responding to the challenges of this century. As it is practiced today, agriculture is responsible for 14% of greenhouse gas emissions of human origin. This is due in particular to the use of synthetic fertilizers, a source of nitrous oxide, one of the most potent greenhouse gases. Over sixty years,

the energy efficiency of industrial agriculture has been divided by twenty: according to the United States Department of Agriculture, in 1940 it took one calorie of fossil energy to produce 2.3 calories of food and in 2000, ten calories of fossil energy were required to produce one calorie of food. Today's petroleum-based agriculture is rapidly destroying the ecosystems on which it depends, and it has developed an addiction to dwindling energies, whose prices will only increase and become more volatile in the future.

In contrast, agroecology is a source of resiliency at regional and national levels, as well as for individual households. Africa, where an attempt is currently being made to launch a new green revolution, imports 90% of its chemical fertilizers, and an even greater proportion of the minerals used to fertilize the soil. This is a very fragile foundation on which to base their so-called food security. Like countries, farmers who rely on costly inputs for their production are not sheltered from the economic shocks that can result from sharp price increases. Conversely, when biopesticides or organic fertilizers are produced locally—like compost or manure, or through the use of nitrogen fixing plants that can capture nitrogen and fertilize soils—production costs drop, and net incomes increase, at times dramatically.

So, how can we explain why agroecology is not more widespread? Why is it not central to farming programs and practices in countries that are currently trying to revive their agriculture? Several factors explain this resistance. First there is the conviction, deeply rooted in a certain conception of what agricultural modernization represents, that progress necessarily involves more inputs, irrigation and extensive mechanization, following the model of the green revolution of the 1960s. There is also resistance from certain sectors, particularly the producers of inputs, who see the large-scale deployment of agroecological practices as detrimental to a buoyant market. Lastly, certain agroecological practices are labor intensive: they are easier to practice on smaller plots, where agricultural workers have

ties to the land, and in which they are investing for the long-term. Agroecology is thus opposed to the idea that progress necessarily means the increase in labor productivity, that is to say producing more with less work and more capital. Today especially, how can we not see the urgent need to develop rural employment, and to focus on better productivity, not of men and women, but in the wise utilization of our rapidly depleting natural resources?

But there is still something else. Agroecology is labor-intensive, but also knowledge-intensive: it presumes the transfer of expertise, relying on exchanges between farmers, and making experts of them. Instead of having best practices coming out of laboratories, they are the results of experimentation in the fields being cultivated. In this respect, agroecology is a source of emancipation for farmers. Rather than merely being advised, they become co-actors, and this balances the relationship between the bearers of knowledge and its users, with farmers participating from both sides. It is on this point in particular that the struggle for agroecology contributes to the reclaiming of food sovereignty, to the reappropriation by farmers of their means of production, and their ability to decide for themselves how and under what conditions to produce. In countries where the exclusion of farmers from political decision-making over the years, has contributed to underinvestment in agriculture, and more importantly, to agricultural policies that have sacrificed both social equity and environmental sustainability, agroecology has had powerfully subversive effects.

I am grateful to Vandana Shiva for delivering this message with conviction and talent, and to Lionel Astruc for giving her the floor in this passionate discussion. Let's listen to them.

OLIVIER DE SCHUTTER

Former United Nations Special Rapporteur on the Right to Food

(2008–2014)