

RECYCLING

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excerpted from *Recycling* by Finn Arne Jørgensen, published by The MIT Press.

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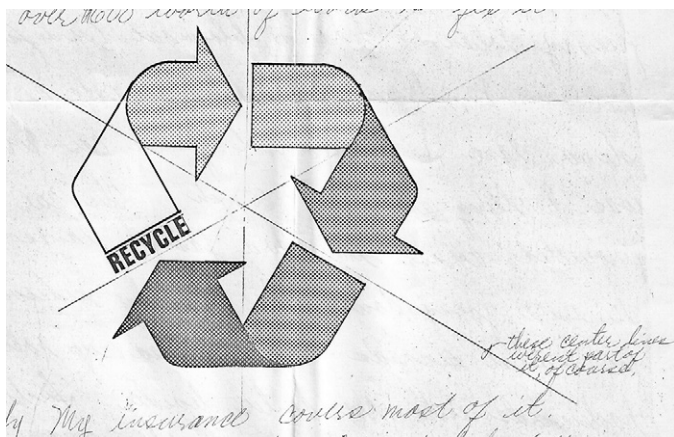


Figure 1 Draft of recycling symbol. Used with kind permission from Gary D. Anderson.

RECYCLING AS SYMBOL AND AS PROCESS

When the twenty-three-year old architecture student Gary Dean Anderson won a competition to create a symbol to represent and communicate the paper recycling process, he gave shape to an iconic symbol that would come to represent something far more significant in the decades to come. The year was 1970 and environmentalism was a hot topic among students and activists across the world. Only a few months before the competition, Anderson participated in an Earth Day teach-in at University of Southern California. This was the first time Earth Day had taken place, but even then there was a tremendous sense of momentum. On the one hand, Planet Earth was under threat by industrial consumer society. On the other hand, there was rapidly growing engagement from a generation that wanted to reduce its footprint on the planet.¹ Recycling promised to help with both.

The competition was not organized by what most people would recognize as environmentalists, however. Instead, it was the Chicago-based Container Corporation of America (CCA). Founded in 1926, CCA manufactured corrugated boxes, but its CEO Walter Paepcke also had a strong interest in graphic design and the arts. For instance, Paepcke founded the Aspen Institute and hired Herbert Bayer, the Bauhaus designer, to create graphic designs for the Aspen project.² Through Paepcke's leadership, CCA amassed a major collection of art that was later donated to the National Museum of American Art. This explains why CCA would be interested in a graphic design competition. But why a competition on recycling?

We need to understand that as a packaging company, CCA actually had a long history of recycling paper. Faced with a pulp shortage caused by the lack of wood (a recurring theme in the history of papermaking, as we will see), Paepcke had turned to recycling paper. At the time of the competition, most of the company's cardboard products came from waste paper. This made good economic sense for the company. More important, packaging had become increasingly visible, both at the point of purchase and after its use and eventual discarding.³ Companies wanted their products to be as visually attractive as possible, making identification in the store easy and their products irresistible. This proved to be a double-edged sword, however, as more and more packaging ended up on the street and

in nature, as litter. The increasing visibility of litter in the late 1960s also made visible the material maker of the litter. The afterlives of products became something companies had to address. CCA felt compelled to address the growing environmental concerns among consumers.

The recycling symbol arose out of the paper littering debate and has grown to become one of the most widely used and recognizable graphic symbols in the world. The design was fairly simple, with three arrows organized in a circle, each one pointing to the next. Each arrow was folded at an angle, as if it were made out of paper. In Anderson's first design, the word "RECYCLE" sat at the base of one of the arrows, but it would eventually be unnecessary. Environmental historian Finis Dunaway argues that the recycling symbol is the most significant visual output of Earth Day, even speculating that it may be one of the most widely seen images in contemporary culture.⁴ He is most likely right. I found one variant or other of the recycling symbol on no less than four items within arm's reach of where I am sitting at my desk right now. It is an everyday symbol and an artistic one, even being included in the Museum of Modern Art's permanent architecture and design collection.⁵

The recycling symbol, ubiquitous as it is, sets out to do some heavy lifting. First, it indicates to a product's users that the packaging technically can be recycled. Second, it implies that the product *should* be recycled, and that it is

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the user's responsibility to make sure the material stays in the loop. Third, it is a signifier of the largely invisible processes of recycling that take place after the consumer leaves the product at a recycling point. This book explores all three aspects of this symbol.

The recycling symbol is simple and elegant, but there is nothing simple or elegant about recycling. Recycling takes us into complex territory, full of both contested symbols and unruly materiality, laden with cynicism and hope, anchored in economy and ecology. Streams of matter, raw and refined, torn from the earth or fashioned from organic matter from eons past, converge, for briefer or longer periods of time, in objects, products, or things, crafted by hand or industrially fabricated, vested in meanings and often subject of controversies. After a period of use, long or short, the individual components separate again into streams. Sometimes this separation is easy, generating new and relatively pure materials. At other times it is hard, where materials have become so intertwined that they resist separation. Such separation processes require technical means, but also social organization and cultural valuation.

Recycling encompasses all parts of this separation process. As sociologist and waste management expert Samantha MacBride argues, recycling is “the most thoroughly developed practice for doing something with solid waste other than burying or burning it.”⁶ What recycling

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aims to do is to close the loop, redirecting streams of matter into something circular that ideally never reaches the waste stage (hence the shape of the symbol).

Recycling aims to eliminate waste; conversely, without waste there is no recycling. But what is waste? We can go to the European Union for one definition: waste is “any substance or object which the holder discards or intends or is required to discard.”⁷ Such institutional definitions are important for setting international policy goals. While we will see throughout this book how such a definition is somewhat limited, it is also useful in that that it involves not only the discarded matter, but also the one who discards. Furthermore, the act of discarding is not a done deal in this definition—it is potentiality, a process, and ultimately a choice. This openness, the understanding that waste can become *something else*, is critical to understanding recycling. Yet, we also need to understand the larger material and infrastructural contexts in which such choices are seated.

Seen from some parts of the world, recycling seems remarkably efficient at this task. I live and work in Norway, a country that has a highly ambiguous relationship to its own environmental footprint. Norwegians—me included—consume enormous amounts of goods and products from all over the world, paid for by oil money, but we also recycle at record-high rates. Trash is hardly visible in public spaces, and yet we rarely see anyone do anything

with waste.⁸ It just disappears into high-tech waste management systems.

As we go about our consuming business, matter enters our lives for a period of time, long or brief, before we again part ways. We are of course intimately familiar with this steady progression of matter toward the trash bin, but we rarely look beyond this point. If we look past the trash bin, we can “trouble the assumptions, premises and popular mythologies of waste,” as Max Liboiron posits as a goal for discard studies.⁹

Historically, recycling has many origins, all depending on which material we are looking at. The word recycling itself first appeared in the 1920s to designate a cyclic recovery process for liquid chemicals. While recycling as an activity has a much longer history, the word as understood today emerged out of 1960s and 1970s environmentalism, exactly the same stew of actors and concerns from which the recycling symbol emerged.

Currently, recycling is typically seen as a way to achieve a sustainable society, allowing for “the consumption of goods and services that meet basic needs and quality of life without jeopardizing the needs of future generations.”¹⁰ It is also an inclusive term, one that presents a way for everyone to do their bit for the environment. As historian Tim Cooper writes, recycling is often perceived as “a modern-day alchemy that can transmute increasing mounds of useless stuff into things of value.”¹¹ Living up

to these expectations is not easy. As we will see, the green aura that has surrounded the term since the 1970s is fading away. Some claim that the return of recycling in the postwar years was initially driven by a desire to keep waste out of landfills, which were rapidly filling up. In short, cities were running out of places to dump waste. Others argue that contemporary recycling has an altogether more problematic origin, in the deliberate attempts of business actors to shift responsibility for waste management onto individuals or the public sector.

Whether or not it actually makes a difference, the recycling of waste does give us a window into the processes in which people, societies, and markets ascribe value to materials and actions. This matters because materials matter. As historian Timothy LeCain has argued, “humans and their cultures are *made of and from* matter and cannot logically exist in isolation from it.”¹² Waste is not an insignificant part of this matter. Yet, its “global dimension, structure, and flows can only be estimated,” writes design scholar Dietmar Offenhuber.¹³ Small matter moves around and ends up in places where it shouldn’t be, such as small pieces of plastic floating around in the oceans, or a plastic bag stuck in a tree. At some point in time and space, someone made a choice, one that intentionally or unintentionally led to waste being discarded. It is not still, passive, or devoid of action now that we as humans have discarded it. Waste is lively and unruly, escaping containment and

classification. We see this all over the planet, on land, in the air, and in the oceans.

Yet people have always sought to tame and control waste. Of course, what counts as waste, and for whom, differs significantly over time. Historian Martin V. Melosi has studied the changing methods for taming waste over 150 years.¹⁴ As he demonstrates, people have placed waste in landfills and dumpsites, in the oceans, and anywhere else they could place it. Another classic work, Joel Tarr's *The Search for the Ultimate Sink*, shows how this search for a final solution for waste is never-ending.¹⁵ Waste does not disappear, but has to be either stored or transformed. Recycling doesn't mean that you get rid of the waste. Instead, recycling gives waste new life. One could see recycling as a recognition *that there is no away*, no final solution for waste. All we can do is try to keep it in the loop and keep it useful.

Waste is constantly on the move. To study it, we can use *following* as a method. This is what researchers do: we follow people and institutions—but increasingly also material things—in an attempt to learn something about the world. We need to follow materials and artifacts—their origins and their destinations—across the planet and over time, with a particular focus on points of transformation and valuation. I have previously called such points *recycling junctions* with reference to Ruth Schwarz Cowan's classic concept, *consumption junction*.¹⁶ It is at the recycling

junction that a decision is made—or a habitual behavior is performed—to recycle a product. While many see consumer recycling as an individual action, most modern recycling takes place within large sociotechnical systems and must also be understood in the aggregate form. The act of returning a product for recycling is important, but it is even more important to understand what happens with it afterward. This book will follow materials as they enter into evolving systems and as they move back and forth between producer and consumer, under continual transformation and valuation, in a never-ceasing process toward becoming waste.

Waste is a commodity, to be traded on a global marketplace of buyers and sellers.¹⁷ As waste material moves around the planet, it changes hands many times. One might argue that it isn't fully waste until it stops moving, when someone no longer wants to or is able to handle it. This movement between actors, across distances small and large, is what enables value to be extracted from discarded matter, which is the essence of recycling. These movements can take place inside both informal and formal waste systems. Matter is selected, sorted, evaluated, processed, and resold a number of times, in a process that requires significant labor. All this influences the economics of recycling.

Through the recycling process, the close relationship between labor and waste comes to the forefront. This is

perhaps most visible in the act of sorting, which is essential for the movement of materials through recycling infrastructures. Don DeLillo's classic novel *Underworld*, where the main character is obsessed with sorting his own waste, illustrates this point well. In his story, waste becomes a metaphor for American culture. Sorting creates meaning and orders the world. The anthropologist Thomas Hylland Eriksen argues that source separation, the act of sorting waste into different categories, is an acquired skill, a way of converting chaos into order.¹⁸ If recycling is busywork, then this is certainly where most consumers do the work. We invest matter with value through our actions. It can be very labor intensive. At the Rachel Carson Center for Environment and Society in Munich, where I wrote much of this book, a not-insignificant part of the kitchen is taken up by a recycling station where waste can be sorted into four categories (metal, plastic, paper, and other). At home in Norway, we sort out paper, plastic, and food waste from the municipal trash for regular pickup, and also need to take glass and metal to separate recycling stations spread around town. Travel the world and you will see countless such sorting systems, each a front end to a technological system that interfaces with business and the state, local and far away. Waste is not just collected; it must also be processed.

We can find one of the more extreme examples of this in the Japanese town of Kamikatsu, where waste is

sorted in no less than thirty-four categories. This small town, located on Shikoku Island, aims to become a zero-waste community and has no garbage trucks. Instead, all residents need to take their own waste to recycling stations. In having such a hands-on approach to recycling, residents get an intimate knowledge of their own waste, learning to recognize and categorize different types of materials. “It can be a pain and at first, we were opposed to the idea,” one resident stated to a film team that made a documentary about Kamikatsu.¹⁹ “We are trying to focus more and totally change our lifestyles, to not produce any waste,” said a representative from the Zero Waste Academy in the town. The amount of manual labor involved in producing zero waste is high. While many residents were unhappy with the arrangement and the personal hassle it involved, Kamikatsu’s Zero Waste initiative also serves as a good example of how involvement in waste management practices through labor confronts people with their own waste production. Kamikatsu finds itself at a recycling junction that can stimulate personal reflection on waste and values.

At its core, recycling is about *transformation* and *values*, where material waste is converted for potentially useful purposes. But what counts as useful? What is valuable? Who shall be responsible for this transformation? What are the alternatives? As we will see in this book, sorting, whether material or cultural, is entirely integral to the

process of recycling. It is in the sorting that matter can become waste, or not. What matters is who gets to do the sorting. We know from Geoffrey Bowker and Susan Leigh Star that such forms of classification are thoroughly social activities; in other words, they are shaped by the societies we live in and the values and power relations of these societies.²⁰

Recycling has its discontents. There has been considerable debate about the value of recycling in both economic and ideological terms. Some would argue that postconsumer recycling is also a largely symbolic activity, and not an actual solution to whatever problems it is intended to solve. When the journalist John Tierney wrote a 1996 *New York Times* article claiming that “rinsing out tuna cans and tying up newspapers may make you feel virtuous, but recycling could be America’s most wasteful activity,” a storm of responses flooded in.²¹ People are passionate about recycling. Challenging recycling also challenged their acts of caring for the environment. Samantha MacBride would agree with some of Tierney’s criticisms, arguing that recycling is busywork that might make us feel like we’re doing something environmentally beneficial, but there are many more significant actions that can be taken.

If that is the case, why has recycling remained so popular? Here it might be worth borrowing an explanation from Thorstein Veblen and his concept of conspicuous

consumption. To be seen consuming particular products can be an expression of wealth, status, and identity. By extension, philosopher Elizabeth Spelman has argued that wastefulness is an inherent part of conspicuous consumption.²² Further extending Veblen's concept, one might also talk about *conspicuous recycling*, to be seen (or even seeing oneself) as doing something for the environment through recycling. In the view of many critics, however, we need to go further. Recycling has been portrayed as fundamentally flawed and a distraction launched by an industry that depends on disposability.²³ There is certainly a paradox here.

Recycling is often compared with other environmental initiatives and is found lacking. For instance, the Norwegian researcher Annegrete Bruvold argues that "we need to recycle plastic for hundreds of years before we have saved the amount of oil we use on a round trip flight between Oslo and San Francisco." Norwegians both travel and recycle a lot, so this comparison strikes home. She argues that environmental attention is too often centered on actions with high symbolic effect and little actual impact: if we don't combine recycling with dramatic lifestyle changes, we are basically hypocrites, because what we actually need to cut is air travel and personal car use.²⁴ Such comparisons are indeed a challenge for consumers.

There is also a question about the relationship between individual choices and actions versus systems-

level impact on large-scale problems. While consumer environmentalism can be seen as a genuine—if perhaps misguided—expression of good intentions, the real waste problem starts elsewhere, with industry and the waste it generates.

Consumers' engagement with their waste often ends at the recycling collection point. What happens with our waste after it leaves our hands, further downstream? This question can be surprisingly hard to answer, as waste is a commodity that gets traded on an increasingly global market. In this process, it gets sorted, separated, combined, and moved around. It shows up in unexpected places. It evades control and moves out of sight. This lack of transparency about what happens with waste after consumer returns is a major challenge when considering the actual effect of recycling. Dietmar Offenhuber argues that access to this information is a requirement for good governance. It is only with this knowledge of where waste goes and what actually happens with it in hand that we can evaluate whether recycling truly is “greenwashing” or worse. He adds, somewhat sarcastically, that while “there is a lack of information about waste systems, there is no shortage of perspectives and opinions about them. The two issues might be related.”²⁵

In order to build up our governance competence, this book is set up to give an overview of the information we have on recycling and to point readers to where they can

go to find out more. We will follow different materials and sets of recycling practices as a way of exploring the many faces of recycling. Each waste type is unique in both upstream consumption and downstream technical processes that lead to recycled material. Through these variations, we will see that recycling is more than just a technical issue. It is deeply embedded in culture, social structure, and economic systems.