**More Recycling Won't Solve Plastic Pollution**

**更多的回收無法解決塑膠汙染問題**

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The only thing worse than being lied to is not knowing you’re being lied to. It’s true that plastic pollution is a huge problem, of planetary proportions. And it’s true we could all do more to reduce our plastic footprint. The lie is that blame for the plastic problem is wasteful consumers and that changing our individual habits will fix it.

比被欺騙更糟糕的，是你不知道自己被欺騙了。塑料污染確實是個巨大的問題，對整個地球造成了極大影響。我們確實可以做更多來減少塑料足跡。但謊言是，將塑料問題歸咎於浪費的消費者，並且認為改變我們的個人習慣就能解決問題。

Recycling plastic is to saving the Earth what hammering a nail is to halting a falling skyscraper. You struggle to find a place to do it and feel pleased when you succeed. But your effort is wholly inadequate and distracts from the real problem of why the building is collapsing in the first place. The real problem is that single-use plastic—the very idea of producing plastic items like grocery bags, which we use for an average of 12 minutes but can persist in the environment for half a millennium—is an incredibly reckless abuse of technology. Encouraging individuals to recycle more will never solve the problem of a massive production of single-use plastic that should have been avoided in the first place.

回收塑料就像是在阻止一棟正在倒塌的摩天大樓時用錘子敲釘子。你努力尋找回收的地方，並且在成功時感到高興。但這樣的努力是完全不足夠的，並且轉移了人們對大樓倒塌根本原因的關注。真正的問題是一次性塑料——像塑料購物袋這樣的產品——我們可能只用12分鐘，但它們卻能在環境中持續500年之久，這是對技術的一種極其魯莽的濫用。鼓勵人們多做回收從來無法解決應該一開始就避免的大量一次性塑料生產問題。

As an ecologist and evolutionary biologist, I have had a disturbing window into the accumulating literature on the hazards of plastic pollution. Scientists have long recognized that plastics biodegrade slowly, if at all, and pose multiple threats to wildlife through entanglement and consumption. More recent reports highlight dangers posed by absorption of toxic chemicals in the water and by plastic odors that mimic some species’ natural food.

Plastics also accumulate up the food chain, and studies now show that we are likely ingesting it ourselves in seafood. If we consumers are to blame, how is it possible that we fail to react when a study reports that there will be more plastic than fish in the oceans by 2050? I would argue the simple answer is that it is hard. And the reason why it is hard has an interesting history.

Beginning in the 1950s, big beverage companies like Coca-Cola and Anheuser-Busch, along with Phillip Morris and others, formed a non-profit called Keep America Beautiful. Its mission is/was to educate and encourage environmental stewardship in the public. Joining forces with the Ad Council (the public service announcement geniuses behind Smokey the Bear and McGruff the Crime Dog), one of their first and most lasting impacts was bringing “litterbug” into the American lexicon through their marketing campaigns against thoughtless individuals.

作為一名生態學家和進化生物學家，我有幸深入了解關於塑料污染的累積文獻。科學家們早就認識到塑料分解緩慢，甚至無法分解，並且對野生動物造成了多重威脅，包括纏繞和誤食。更近期的報告指出，塑料會吸附水中的有毒化學物質，並釋放出模擬某些物種食物的塑料氣味。塑料還會積累到食物鏈中，研究顯示我們自己也很可能在食用海鮮時攝入塑料。如果我們消費者真的要為此負責，那麼如何解釋當一項研究報告顯示到2050年，海洋中的塑料會比魚類還多的情況？我認為簡單的答案是，這很難。而且，這其中有一段有趣的歷史。從1950年代開始，可口可樂、安海斯布希（Anheuser-Busch）、菲利普莫里斯等大型飲料公司成立了一個名為“保持美國美麗”（Keep America Beautiful）的非營利組織，其使命是教育並鼓勵公眾環保行為。與廣告協會（Ad Council）合作，該組織的首個且影響深遠的活動之一，就是將“垃圾蟲”（litterbug）這一詞引入美國語言，並開始了對不負責任個體的宣傳。

Two decades later, their “Crying Indian” PSA, would become hugely influential for the U.S. environmental movement. In the ad, a Native American man canoes up to a highway, where a motorist tosses a bag of trash. The camera pans up to show a tear rolling down the man’s cheek. By tapping into a shared national guilt for the history of mistreatment of Native Americans and the sins of a throwaway society, the PSA became a powerful symbol to motivate behavioral change. More recently, the Ad Council and Keep America Beautiful teams produced the “I Want to Be Recycled” campaign, which urges consumers to imagine the reincarnation of shampoo bottles and boxes, following the collection and processing of materials to the remolding of the next generation of products.

二十年後，他們的“哭泣的印第安人”（Crying Indian）公共服務廣告成為美國環保運動中具有巨大影響力的作品。在廣告中，一名印第安人划船到一條高速公路上，一名司機將一袋垃圾丟出車窗，鏡頭上移，顯示印第安人眼中含淚。這個廣告通過觸動人們對美國歷史上對印第安人不公的集體罪疚感以及對拋棄式社會的反思，成為了激勵行為改變的強大象徵。最近，廣告協會和保持美國美麗合作團隊推出了“我想被回收”（I Want to Be Recycled）活動，鼓勵消費者想像洗髮水瓶和盒子經過收集和處理後，重塑成為下一代產品。

At face value, these efforts seem benevolent, but they obscure the real problem, which is the role that corporate polluters play in the plastic problem. This clever misdirection has led journalist and author Heather Rogers to describe Keep America Beautiful as the first corporate greenwashing front, as it has helped shift the public focus to consumer recycling behavior and actively thwarted legislation that would increase extended producer responsibility for waste management.

從表面看來，這些行動似乎是善意的，但它們掩蓋了真正的問題，那就是企業污染者在塑料問題中的角色。這種巧妙的轉移注意力方式，使得記者兼作家海瑟·羅傑斯（Heather Rogers）形容“保持美國美麗”為第一個企業綠色洗牌的前線，它幫助將公眾的焦點轉向消費者的回收行為，並積極阻撓能增加製造商對廢物管理責任的立法。

For example, back in 1953, Vermont passed a piece of legislation called the Beverage Container Law, which outlawed the sale of beverages in non-refillable containers. Single-use packaging was just being developed, and manufacturers were excited about the much higher profit margins associated with selling containers along with their products, rather than having to be in charge of recycling or cleaning and reusing them. Keep America Beautiful was founded that year and began working to thwart such legislation. Vermont lawmakers allowed the measure to lapse after four years, and the single-use container industry expanded, unfettered, for almost 20 years.

例如，1953年，佛蒙特州通過了一項名為“飲料容器法”（Beverage Container Law）的立法，禁止銷售不可重複使用的飲料容器。當時，一次性包裝剛開始開發，製造商對於將容器與產品一起銷售的利潤非常感興趣，而不是承擔回收或清潔重複使用容器的責任。保持美國美麗正是在那一年成立的，並開始致力於阻止這樣的立法。佛蒙特州的立法在四年後過期，單次使用容器行業在幾乎沒有監管的情況下得以擴展近20年。

In 1971 Oregon reacted to a growing trash problem by becoming the first U.S. state to pass a “bottle bill,” requiring a five-cent deposit on beverage containers that would be refunded upon the container’s return. Bottle bills provide a strong incentive for container reuse and recycling, and the 10 states with bottle deposit laws have around 60 percent container recovery rates compared to 24 percent in states without them. Yet Keep America Beautiful and other industrial lobbying groups have publicly opposed or marketed against bottle deposit legislation for decades, as it threatens their bottom line. Between 1989 and 1994 the beverage industry spent $14 million to defeat the National Bottle Bill.

1971年，俄勒岡州因應日益嚴重的垃圾問題，成為首個通過“瓶子法”的美國州，要求飲料容器收取五分的押金，並在容器返回時退還。瓶子法強烈激勵容器的重複使用和回收，擁有瓶子法的10個州，容器回收率達到了60%，而沒有該法律的州回收率只有24%。然而，保持美國美麗和其他工業遊說團體多次公開反對或對瓶子押金法進行反宣傳，因為這威脅到他們的利潤。1989年至1994年間，飲料業花費了1400萬美元來擊敗全國瓶子法案。

In fact, the greatest success of Keep America Beautiful has been to shift the onus of environmental responsibility onto the public while simultaneously becoming a trusted name in the environmental movement. This psychological misdirect has built public support for a legal framework that punishes individual litterers with hefty fines or jail time, while imposing almost no responsibility on plastic manufacturers for the numerous environmental, economic and health hazards imposed by their products.

事實上，保持美國美麗的最大成功就是將環保責任轉移到公眾身上，同時成為環保運動中的可信賴名字。這種心理誤導幫助建立了支持一種法律框架，這種框架懲罰個別的垃圾丟棄者，並處以重罰或監禁，而幾乎不對塑料製造商負責，儘管他們的產品對環境、經濟和健康造成了大量的危害。

Because of a legal system that favors corporate generation of plastic, plus public acceptance of single-use items as part of the modern economy, consumers who want to reduce their plastic footprint are faced with a host of challenges. We should carry around reusable beverage and takeout containers. We should avoid bottled water or sodas at all costs. When we have to accept a single-use plastic container, we should inform ourselves about the complex nuances of which types of plastic are acceptable (No. 1–3, but not No. 5?), which forms are acceptable (bottles and jugs, but not bags?) and where they can be deposited (curbside or at a special location?).

In the case of most restaurants and gas stations, which almost never have customer-facing recycling facilities even where required by law, we should transport recyclables to another location that does recycle. Even then, we must live with the knowledge that plastics generally degrade with recycling, such that plastic bottles are more often turned into non-recyclable carpets and synthetic clothes than more bottles. Effectively, we have accepted individual responsibility for a problem we have little control over. We can swim against this plastic stream with all our might and fail to make much headway. At some point we need to address the source.

由於法律體系有利於塑料企業的生產，再加上公眾對一次性物品作為現代經濟一部分的接受，消費者在想要減少塑料足跡時面臨許多挑戰。我們應該隨身攜帶可重複使用的飲料和外賣容器。我們應該完全避免瓶裝水或汽水。如果我們不得不接受一次性塑料容器，我們應該了解哪些類型的塑料是可接受的（1–3號，但不是5號），哪些形式是可接受的（瓶子和罐子，但不是袋子），以及它們可以被丟到哪些地方（路邊或特定地點）。在大多數餐廳和加油站，顧客面對的回收設施幾乎從未設置，即使法律要求設置回收設施，我們也應該將回收物品運送到另一個能夠回收的地方。即便如此，我們還必須面對這樣的事實：塑料回收一般會降解，因此塑料瓶更常被製成不可回收的地毯和合成衣服，而不是回收再利用為瓶子。實際上，我們已經接受了個體對一個我們無法控制的問題負責。我們可以全力逆流而上，但依然無法取得太大進展。到了某個時候，我們需要解決根源問題。

According to a 2016 Pew Research poll, 74 percent of Americans think the government should do “whatever it takes to protect the environment.” So what would swift, informed and effective governmental action to stop the pollution of our water, food and bodies look like?

根據2016年皮尤研究中心的一項民調，74%的美國人認為政府應該採取“一切必要措施來保護環境”。那麼，迅速、明智且有效的政府行動來阻止我們的水源、食物和人體的污染應該是什麼樣的？

Legislators could make laws that incentivize and facilitate recycling, like the national bottle deposit and bag tax bills that were proposed in 2009. These bills would have created a nationwide five-cent deposit on plastic bottles and other containers, and a nonrefundable five-cent charge on plastic bags at checkout. The U.K. launched a similar charge on all single-use grocery bags in 2015 and announced a nationwide bottle deposit requirement in March of this year. Within six months of the plastic bag charge being in place, usage dropped over 80 percent. Similarly, in Germany, where a nationwide bottle bill was put in place in 2003, recycling rates have exceeded 98 percent. In the

U.S. these actions would go a long way toward recovering the estimated $8 billion yearly economic opportunity cost of plastic waste.

立法者可以制定法律，鼓勵並促進回收，例如2009年提出的全國瓶子押金和塑料袋稅法案。這些法案將對塑料瓶和其他容器收取五美分的押金，並對結帳時使用的塑料袋徵收五美分的不可退還費用。英國在2015年推出了類似的塑料袋收費政策，並於今年3月宣布實施全國性瓶子押金政策。在塑料袋收費政策實施的六個月內，塑料袋的使用量下降了超過80%。同樣，自從德國在2003年實施全國瓶子押金政策以來，其回收率已超過98%。在美國，這些措施將有助於挽回每年約80億美元的塑料廢物經濟機會損失。

Other actions could include a ban or “opt-in” policy on single-use items like plastic straws. That is, single-use plastic items would not be available or only upon request. A small tweak like this can lead to huge changes in consumer behavior, by making wastefulness an active choice rather than the status quo. Such measures were recently adopted by several U.S. cities, and are under consideration in California and the U.K.

其他行動可能包括禁止或對一次性物品（如塑料吸管）實行“選擇加入”政策，即一次性塑料物品將不會隨處提供，而僅在客戶要求時提供。這樣的小改動可以帶來消費行為的巨大變化，因為它使浪費成為一種主動選擇，而非現狀。美國幾個城市最近已採用這些措施，加州和英國也在考慮採取類似行動。

And yet, some plastic producers continue to oppose legislation that would eat into their profit margins. Though California and Hawaii have banned the free distribution of plastic bags at checkout, a result of lobbying is that 10 U.S. states now have preemption laws preventing municipalities from regulating plastic at the local level. Plastic producers see their profits threatened and have taken a familiar tactic, forming the Save the Plastic Bag Coalition and the American Progressive Bag Alliance to fight bag bans under the guise of defending customers’ finances and freedom to choose.

然而，一些塑料生產商仍然反對可能影響其利潤的立法。儘管加州和夏威夷已禁止在結帳時免費分發塑料袋，但在塑料行業的遊說下，目前有10個美國州實施了優先權法案，阻止市政府對塑料進行地方性監管。塑料生產商看到其利潤受到威脅，便採取了熟悉的策略，成立了“拯救塑料袋聯盟”（Save the Plastic Bag Coalition）和“美國進步塑料袋聯盟”（American Progressive Bag Alliance），以捍衛顧客財務和選擇自由為名，對抗塑料袋禁令。

So what can we do to make responsible use of plastic a reality? First: reject the lie. Litterbugs are not responsible for the global ecological disaster of plastic. Humans can only function to the best of their abilities, given time, mental bandwidth and systemic constraints. Our huge problem with plastic is the result of a permissive legal framework that has allowed the uncontrolled rise of plastic pollution, despite clear evidence of the harm it causes to local communities and the world’s oceans. Recycling is also too hard in most parts of the U.S. and lacks the proper incentives to make it work well.

**那麼，我們該如何讓負責任地使用塑料成為現實呢？**

首先：拒絕謊言。垃圾蟲並不是全球塑料生態災難的罪魁禍首。在現有的時間、精神容量和系統約束下，人類只能盡其所能解決問題。我們面臨的塑料問題，是由寬鬆的法律框架導致的。該框架允許塑料污染在明確證明其對地方社區和全球海洋的危害後，仍無限制地增加。回收在美國的大部分地區過於困難，也缺乏有效的激勵措施使其運行良好。

Second: talk about our plastic problem loudly and often. Start conversations with your family members and friends. Call your local and federal representatives to support bottle bills, plastic bag taxes and increased producer responsibility for reuse and recycling. Stand up against preemptive bans on local plastic regulation. There are signs that corporations are listening to consumer opinions, too. After numerous petitions from customers and environmental organizations, McDonalds has pledged to use only sustainable packaging materials by 2025 and to phase out Styrofoam by the year’s end.

其次：大聲頻繁地談論我們的塑料問題。與家人和朋友開始這樣的對話。致電您當地和聯邦代表，支持瓶子押金法案、塑料袋稅以及提高製造商對重複使用和回收的責任。反對禁止地方塑料監管的優先權法案。有跡象表明企業也在聽取消費者的意見。在經歷了多次來自顧客和環保組織的請願後，麥當勞承諾在2025年前僅使用可持續包裝材料，並在年底前淘汰泡沫塑料。

Third: think bigger. There is now serious talk of zero waste. Instead of trying to reduce waste by a small fraction, some individuals and communities are shifting their lifestyles to ensure

that nearly everything is reused, recycled or composted. Non-recyclable straws and to-go cup lids do not fit into this system. Though inspiring, a zero waste lifestyle will be impractical or impossible for most of us within current economic systems.

最後：擴大視野。目前，零廢棄的理念正受到認真討論。與其嘗試減少少量垃圾，一些個人和社區正在改變生活方式，確保幾乎所有東西都能被重複使用、回收或堆肥。非可回收的吸管和外帶杯蓋不符合這樣的系統。儘管令人鼓舞，但在現有經濟體系下，零廢棄生活方式對大多數人來說既不切實際，也不可能。

A better alternative is the circular economy model, where waste is minimized by planning in advance how materials can be reused and recycled at a product’s end of life rather than trying to figure that out after the fact. To make this happen, we can support groups like the Ellen MacArthur Foundation that are partnering with industry to incorporate “cradle-to-cradle” (i.e., circular economic) design into their products.

**一個更好的選擇是循環經濟模式**，在這種模式下，通過提前計劃材料在產品壽命結束時如何重複使用和回收，而不是事後試圖解決問題，將廢物最小化。為了實現這一目標，我們可以支持像艾倫·麥克阿瑟基金會（Ellen MacArthur Foundation）這樣的組織，該基金會與業界合作，將“從搖籃到搖籃”（即循環經濟）設計融入其產品中。

This could be our future—a future of clean cities, rivers and beaches but also simpler, more responsible choices for consumers. There are now too many humans and too much plastic on this pale blue dot to continue planning our industrial expansions on a quarterly basis. It’s time to stop blaming consumers for our plastic crisis and demand a better system.

這可能成為我們的未來——一個擁有乾淨城市、河流和海灘的未來，同時也為消費者提供更簡單、更負責任的選擇。這顆藍色星球上有太多的人類和塑料，我們不能繼續僅根據季度計劃工業擴展。是時候停止指責消費者為我們的塑料危機負責，並要求一個更好的系統了。

**第一個論點**

塑料污染的核心問題在於一次性塑料的過度生產和企業責任的缺失，而非消費者的行為。企業透過宣傳將責任推給消費者，實際上是為了避免承擔廢棄物管理的責任。

* *Paragraph 2*: *"The real problem is that single-use plastic—the very idea of producing plastic items like grocery bags, which we use for an average of 12 minutes but can persist in the environment for half a millennium—is an incredibly reckless abuse of technology."*

真正的問題是一次性塑料——像塑料購物袋這樣的產品——我們可能只用12分鐘，但它們卻能在環境中持續500年之久，這是對技術的一種極其魯莽的濫用

* *Paragraph 5*: *"This clever misdirection has led journalist and author Heather Rogers to describe Keep America Beautiful as the first corporate greenwashing front, as it has helped shift the public focus to consumer recycling behavior and actively thwarted legislation that would increase extended producer responsibility for waste management."*

這種巧妙的轉移注意力方式，使得記者兼作家海瑟·羅傑斯（Heather Rogers）形容“保持美國美麗”為第一個企業綠色洗牌的前線，它幫助將公眾的焦點轉向消費者的回收行為，並積極阻撓能增加製造商對廢物管理責任的立法。

**第二個論點**

解決塑料污染的根本方法是透過政策支持和系統性改革，而非單純依賴消費者的個人行動。文章提到有效的立法可以顯著改善塑料回收率，例如塑料袋稅和瓶子押金法。同時，循環經濟的概念也被提出，強調從設計階段就考慮如何回收和再利用塑料。

* *Paragraph 12*: *"Legislators could make laws that incentivize and facilitate recycling, like the national bottle deposit and bag tax bills that were proposed in 2009."*

立法者可以制定法律，鼓勵並促進回收，例如2009年提出的全國瓶子押金和塑料袋稅法案。

* *Paragraph 14*: *"A better alternative is the circular economy model, where waste is minimized by planning in advance how materials can be reused and recycled at a product’s end of life rather than trying to figure that out after the fact."*

**一個更好的選擇是循環經濟模式**，在這種模式下，通過提前計劃材料在產品壽命結束時如何重複使用和回收，而不是事後試圖解決問題，將廢物最小化

#### 結論

塑料污染是一個系統性的問題，僅靠個人行動並不足以解決。需要我們拒絕企業的“綠色洗白”，並積極推動政策改變。同時，支持循環經濟模式，從源頭上減少塑料污染，才是長遠的解決之道。