

The Alliance between the global movement for Environmental Justice and the small Degrowth (or Post-Wachstum or Prosperity without Growth) movement in the North

论全球环境正义运动与北方缓增（后增长/无增长的繁荣）运动之结盟

Joan Martinez-Alier

ICTA-UAB

霍安·马丁内斯-阿列尔

西班牙巴塞罗那自治大学环境科学与技术研究所

www.eco2bcn.es

www.ejolt.org

www.ejatlas.org

Beijing 北京
2015年4月

UN rhetoric 联合国的花言巧语

- In Rio 1992, “sustainable development”
1992年，里约热内卢，“可持续发展”
- In Rio + 20, in 2012, “green economy” improved human well-being and social equity, while reducing environmental risks and scarcities
2012年，里约热内卢峰会20周年，“绿色经济”提高了人类福祉与社会平等，减少了环境风险及资源短缺
- In Rio + 40 in 2032, “sustainable economy” ?
2032年，里约热内卢峰会40周年，“可持续经济” ?
- In Rio + 60 in 2052, “green development” ?
2052年，里约热内卢峰会60周年，“绿色发展” ?
- Meanwhile ... 与此同时



Growing
Metabolism
and appropriation
of biomass
新陈代谢与生物量
的消耗增多



Social Metabolism 社会新陈代谢

- **Energy cannot be recycled, therefore even an economy that would not grow but that would use large amounts of fossil fuels, would need “fresh” supplies coming from the commodity frontiers.**
能源不可能循环，因此即便是经济不增长，亦会消耗大量化石能源，需要动用来自前沿商品的“新鲜”供应。
- **The same applies to materials, which in practice can be recycled only to some extent (like copper, aluminium, steel or paper).**
原材料同样如此，实际上只有部分原材料可循环利用（如铜、铝、钢铁或纸张）。
- **When the economy grows, the search for materials and energy sources is of course even greater.**
经济增长时，对原材料和能源的需求更盛。

Social Metabolism 社会新陈代谢

There is “**accumulation by dispossession**” (Harvey, 2003) or *Raubwirtschaft*, ...

有“**剥夺式积累**”（Harvey, 2003）或劫掠式经济（*Raubwirtschaft*）

... and there is “**accumulation through contamination**”, meaning that profits increase by the ability to dispose of the “effluents of affluence” and other waste at zero or low cost.

... 也有“**污染式积累**”：以零成本或低成本处理“经济富裕带来的排放物”和其他废弃物从而实现利润的增长。

This does not indicate so much a market failure as a (provisional) **cost-shifting success**.

这多指**成本的（偶尔）成功转嫁**，而非市场失灵。

Methods for the study of Social Metabolism

社会新陈代谢的研究方法

- Increased Material Flows (in tons)
原材料流动增加（以吨计）
- Increased energy flows (and decreasing EROI)
能量流动增加（能源投资回报率降低）
- Increased flows on “virtual water” in exports of soybeans, ethanol, cellulose...
“虚拟水”流动增加：以大豆、乙醇、纤维板的出口为形式
- Increased HANPP, including the “embodied HANPP”
净初级生产力的人类占用增加，包括“净初级生产力的人类占用对生态系统上流的影响”增加

TRENDS: loss of biodiversity 趋势：生物多样性消失

- 18 years after the UN Rio de Janeiro conference of 1992, the objective of the EU and the UN of **halting the loss of biodiversity** by the year 2010 has not been achieved and it has been ditched in practice.
到2010年，1992年联合国里约热内卢峰会18年之后，欧盟与联合国**挽救生物多样性的**目标未能达成，实际上已被弃置一旁。
- The **HANPP** (human appropriation of net primary production) puts increasing pressure on biodiversity.
净初级生产力的人类占用对生物多样性施加了更多的压力。

TRENDS: loss of biodiversity 趋势：生物多样性消失

- Biodiversity loss is sometimes seen as a market failure to be corrected by suitable pricing. At other times bad governance, unsuitable institutions, and neoliberal policies are blamed.
有时，生物多样性的消失被归咎为市场失灵，可通过适当的价格体系得以纠正。有时被归咎为治理不善，制度不妥，以及新自由主义政策的实行。
- However, the main underlying cause of the loss of biodiversity is the **increased social metabolism of the human economy**.
然而，生物多样性消失的主要原因在于人类经济体的社会新陈代谢增加了。
- This would be similar under Keynesian social-democratic policies, or indeed under communist economic systems, if the technologies and levels of population and per capita consumption were as those of today.
如果现有人口规模、技术水平以及人均消耗量维持不变，那么无论是采用凯恩斯式的社会民主政策，还是共产主义经济体系，结果都差不多。

TRENDS in CO2 emissions 二氧化碳排放趋势

- **CO2 concentration** was about 300 ppm when Svante Arrhenius (1895) wrote about the enhanced greenhouse effect; it is now 402 ppm. The yearly increase is 2 ppm. Little is being done in practice to reverse this trend.
当阿列纽斯（Arrhenius 1895）论述温室效应增强时，二氧化碳的浓度约为百万分之300；现在是百万分之402。年增加量为百万分之2。我们几乎没有采取什么措施，只是坐看这一趋势的发展。
- **CO2 emissions** by the economy come mostly from burning fossil fuels. **Peak oil** in the Hubbert curve is now very near. **Peak extraction of natural gas** perhaps reached in thirty years.
二氧化碳的排放量主要来自燃烧化石燃料。哈伯特曲线中**石油开采量**马上就要到达峰点。**天然气开采量的峰点**在30年内就会到来。
- This means more burning of coal although the production of CO2 per unit of energy from coal is larger than for oil and gas.
这意味着需要燃烧更多的煤炭，尽管煤炭生产每单位能量所排放的二氧化碳远远高于石油和天然气。

CLIMATE JUSTICE 气候正义

Confronted by the threats and the injustices of climate change in an unequal world, claims for climate justice and from the repayment of the ecological debt are heard from the South, from the EJOs and also sometimes from some government representatives.

Paris COP, 2015, great occasion for Climate Justice.

面临环境变化所带来的不同程度的威胁与不公，南方国家、环境正义组织以及（有时）政府代表都发出呼吁，呼唤气候公正，偿还生态债务。

2015年巴黎将召开气候变化国际公约会议，这将是谋求气候公正的一大盛事。

J.Martinez-Alier, two approaches to Climate Justice (Henry Shue and Naomi Klein), in *Development and Change*, March 2015.

参见拙作“气候公正的两条途径”，《发展与变化》（2015年3月）

TRENDS: towards degrowth in rich economics leading to a steady state?

趋势： 富裕国家缓慢增长从而达到稳定状态？

Taking into account other trends like the drop in the availability of many edible species of fish, the spread of nuclear energy and its military proliferation, and the approaching “peak phosphorous”,
考虑到其他趋势：如可供食用的鱼类数量下降，核能在民事和军事上的扩张，以及“磷含量峰值”的逼近，

it is time to go back to the debates of the 1970s on the desirability of a steady-state economy in rich countries, and indeed of a period of degrowth (*décroissance*, *decrescita*) in terms of the use of energy and materials in the economy.

是时候重新讨论20世纪70年代的议题了：富裕国家的经济保持稳定状态的必要性，以及在使用能量和原材料方面进入缓慢增长期的必要性。

Debates of the 1970s 20世纪70年代的议题

- People refer to the Stiglitz/Sen (and Sarkozy) in 2009 as the main intellectual forces behind the **critique of GDP**.
人们以为**谴责GDP**的先行者是2009年的斯蒂格利茨/阿马蒂亚森（和萨科齐）
- However, from the 1970s-80s, authors like Georgescu-Roegen, Roefie Hueting, Herman Daly... already did this (and battled Stiglitz and Solow).
但是杰奥尔杰斯库-勒根，洛菲·休廷，赫尔曼·戴利等人已经这样做了
（与斯蒂格利茨、索洛等人论战）
- Sicco Mansholt, André Gorz, Ivan Illich...
还有西古·蒙索尔特，安德列·高兹和伊凡·伊里奇
- And feminist ecological economists like M.Waring (1988).
以及女权主义生态经济学家韦林

Peak population: love one another more, and do not multiply so much 人口峰值：更爱彼此，少生孩子

- One welcome trend is the rapid decrease in the rate of growth of the human population. Peak population will probably be reached around 2050 at perhaps 8.500 million people.
人口的增速放缓了，这是一个让人欢欣鼓舞的趋势。到2050年，世界人口可能将达到85亿人的峰值。
- The pyramid of population (still taught at schools), should be drawn as a rectangle (admittedly with a little pyramid on top).
(学校依然在教授) 人口的金字塔应当是四边形的 (顶部当然有一个小型的金字塔)
- The debates between Malthusians and Marxists, and between Malthusians and economists who favour population growth, are still relevant today as also the doctrines of feminist Neo-Malthusians of 1880-1920 (like Maria Lacerda de Moura in Brazil).
马尔萨斯主义者和马克思主义者之间、马尔萨斯主义者和偏好人口增长的经济学家之间的争论，以及1880到1920年间女权主义的新马尔萨斯主义者 (如巴西的玛利亚·拉塞尔达·莫拉) 的学说，时至今日仍然重要。

The environmentalism of the poor 穷人的环境主义

- Another welcome trend is the growth of the environmentalism of the poor and of indigenous people.
还有一个让人高兴的趋势，那就是穷人和原住民的环境主义开始兴起。

Recent instrument for research:

近期研究的工具：

The EJAtlas (www.ejatlasing.org) is reaching 1500 conflict cases, drawing on “activist knowledge” .

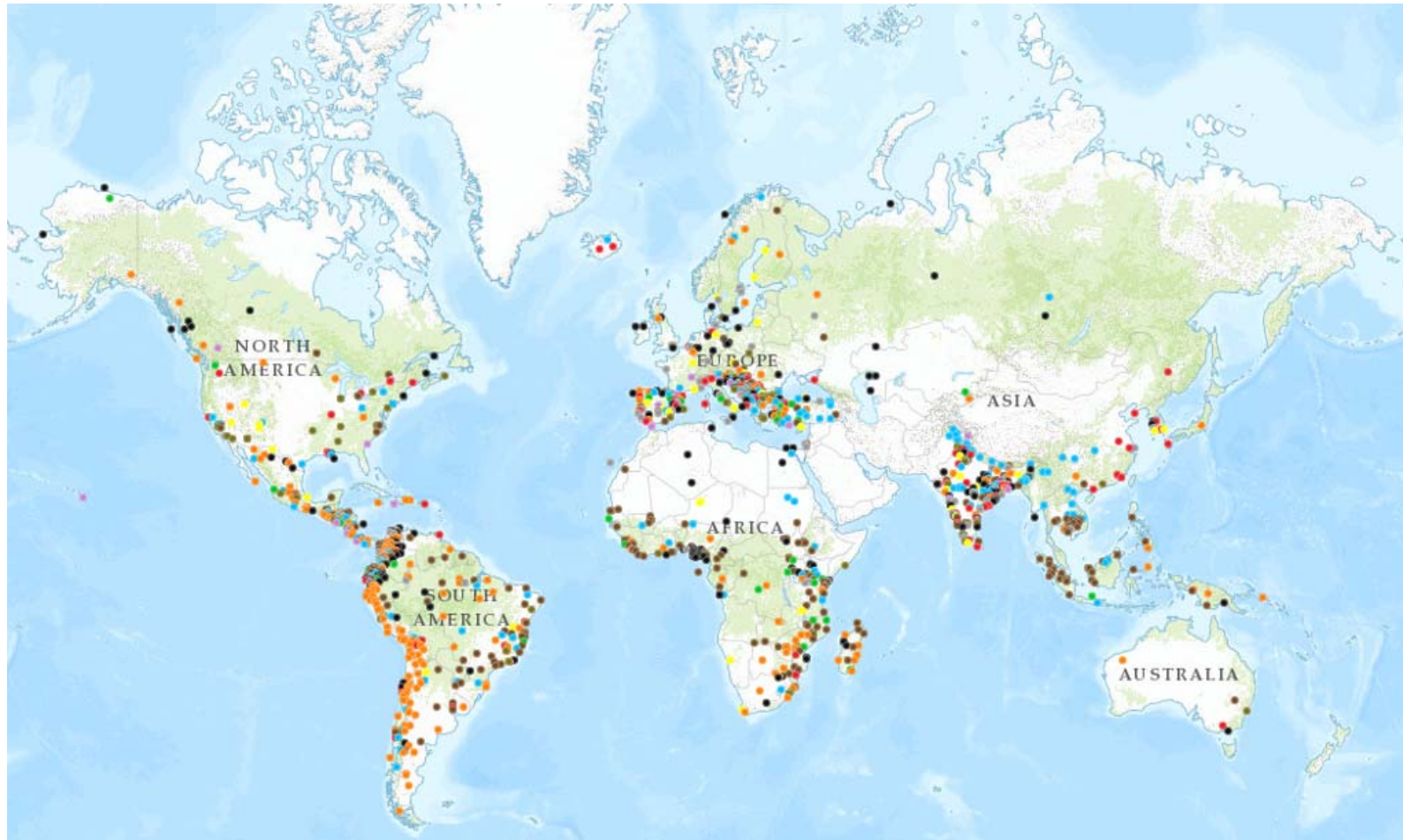
环境正义地图网(www.ejatlasing.org)已经利用“活动家的知识”，收集了1500个关于冲突的案例。

Many cases show the environmentalism of the poor and the indigenous. The environmentalism of the dispossessed.

很多案例诠释了穷人和原住民的环境主义，以及被剥夺者的环境主义。

The EJAtlas by March 2015

环境正义图（2015年3月）



... 5th March 2012, Acción Ecológica's activists peacefully occupied for some hours the Chinese embassy in Quito, complaining against open cast copper mining in Shuar territory in Cordillera del Cóndor.

2012年3月5日，生态行动组织的成员和平占领了中国驻基多大使馆数小时，以抗议孔多尔山脉舒阿尔地区露天铜矿的开采。



The Alliance between Degrowth and the Environmentalism of the Poor 缓增运动与穷人的环境主义结盟

- exercise the **right to previous consent** under Convention 169 of ILO applied to indigenous communities, or introduce institutions such as **local referendums** on mining (Esquel, Tambogrande) ...
运用在国际劳工组织169号公约中规定的原住民**事先同意权**，或引入就采矿举行**本地公投**的制度（阿根廷的塔姆博格兰德，埃斯科尔）

...or introduce **resource caps** or new plans for **leaving fossil fuels in the ground** as in the Yasuní ITT oilfields in Ecuador.
或如同厄瓜多尔的亚苏尼倡议，引入**资源限制**或新计划**让化石燃料沉眠地底**。
- **Successful attempts** have been made to **bring Shell to court in The Hague** for what it does in the Niger Delta or Chevron-Texaco for what it did in Ecuador.
就壳牌公司在尼日尔三角洲以及美国雪佛龙—德士古炼油公司在厄瓜多尔的所作所为，人们已经成功地将这两家公司告上海牙法庭。
- **Women** are often in the lead in such movements. 女性通常在这类运动中起带头作用。



**Kalinganagar, Orissa, monument to those killed on
2 Jan.06 defending their land against TATA
photo 2 Jan 2007: Leah Temper, UAB**

印度奥里萨邦的卡林加纳加，为保卫土地对抗塔塔集团而死去的人（2006年1月2日）
的纪念碑。

2007年1月2日，巴塞罗那自治大学Leah Temper摄。

Complaints against oil extraction and mining 抗议石油和矿产的开采

- If we look at the **Social Metabolism** of the economy (in terms of **energy and material flows including water**), we see that it **is increasing all the time**.
如果考察经济中的社会新陈代谢（即能量和原材料及水的流动），那我们会发现它一直都在增加。
- Let me repeat: **even an industrial economy without growth** requires fresh supplies of fossil energies and of materials, because energy cannot be recycled and materials are recycled only in part.
我再说一次：哪怕是一个工业经济体不增长，它也需要新的化石能源和原材料来维持，因为能源是不可再生的，而原材料也只能实现部分的循环利用。
- **The economy is not circular, it is entropic.**
经济并不是循环的，而是退降的（熵的）。

ECOLOGICAL DISTRIBUTION CONFLICTS 生态分配矛盾

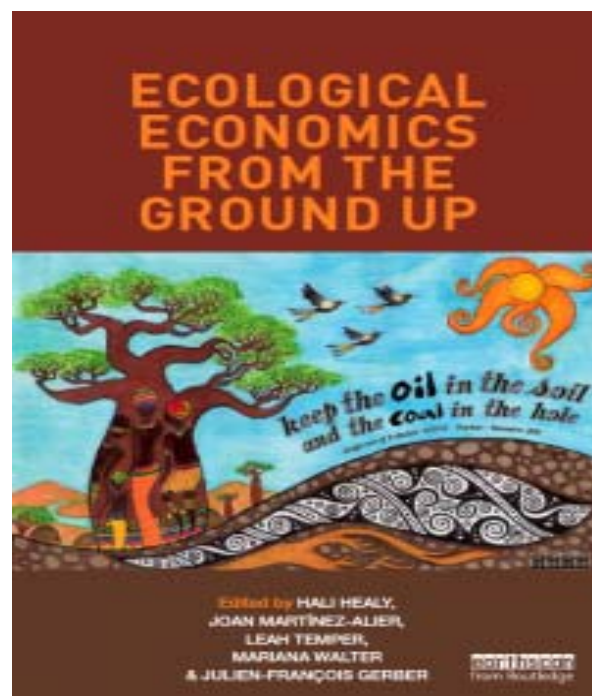
- There are Resource Extraction Conflicts 存在资源开采的矛盾冲突
- also Transport Conflicts 也有运输方面的矛盾冲突
- also Waste Disposal Conflicts (excessive CO2 production is perhaps the main one). 以及废物处理的矛盾冲突（二氧化碳的过量排放或许是其中的主要矛盾）
- Special issues in *Ecological Economics* 2010 (vol 70) edited by JMA, G. Kallis, M.Walter, S.Veuthey, L.Temper, and in *Global Environmental Change* 2012 (vol. 22) on Global transformations, social metabolism and the dynamics of socio-environmental conflicts, edited by R. Muradian, M.Walter and JMA.
参见《生态经济学》2010年专刊（第70期）以及《全球环境变迁》2012年第22卷，关于全球转型、社会新陈代谢以及社会环境矛盾的动态变化。
- European projects CEECEC, EJOLT www.ejolt.org, www.ejatlas.org
欧洲项目“生态经济中的公民社会”（CEECEC）以及“环境正义组织、债务与贸易”（EJOLT）

BOOK: *Ecological Economics from the Ground Up*, ed. by H. Healy, J. Martinez-Alier, L. Temper, M. Walter and J.F. Gerber. 著作: 《彻底的生态经济学》

The project EJOLT (2011-15), Environmental Justice Organizations, Liabilities and Trade (www.ejolt.org) follows from a previous FP7 project called CEECEC (2008-10), and this book is one of the results of that two year long effort by 8 CSOs and 6 universities. It also has new chapters from the EJOLT project.

This book takes a unique bottom-up approach using case studies that focus on a wide range of internationally relevant topics, to teach the principles, concepts and tools of ecological economics and political ecology.

环境正义组织、债务和贸易（2011—15）项目是之前欧盟第七框架计划项目CEECEC（2008—10）的延续。本书是8个公民社会组织、6所大学两年戮力合作的成果之一。其中也包含了来自EJOLT项目的新内容。全书采用自下而上的方法，通过案例聚焦于广泛的全球相关议题，讲述关于政治生态学和生态经济学的原则、概念与工具。



Environmental Liabilities and the courts 环境债务与法庭

- Ecological Debts = Environmental Liabilities. 生态债务 = 环境债务
- **Some times** liabilities can be **translated into a money payment** (compensatory and punitive) for damages.
有时，债务可以被理解为对所造成的损失的金钱支付（补偿或惩罚）
- **Sometimes**, this is **difficult** – present value of damage to future generations? Present value of disappearing unknown species?
有时，这点难以理解一些——它是子孙后代所受伤害的现值？正在消失的未知物种的现值？
- **Civil or criminal cases**? Xstrata-Glencore in La Alumbrera (Argentina), perhaps a criminal court case. Also, 2012 criminal asbestos case Italy (Stephan Schmidheiny). 这是民事还是刑事案件？斯特拉塔集团的铝矿（阿根廷）或许是一个刑事案件。2012年的意大利石棉案（斯蒂芬·斯密德亨尼涉案）也是一个刑事案件。

Claims for payment of environmental liabilities

呼吁偿还环境债务

- The economy works in practice by shifting costs to poor people, to future generations, and to other species. How could a growing industrial economy work otherwise?
经济的运行实际上是通过将成本转嫁给穷人、后代和其它物种得以实现。一个不断增长的工业经济怎么可能有其他途径呢？
- Sometimes, environmental liabilities appear in the public scene when there are complaints, or when there are sudden accidents (BP in the Gulf of Mexico, 2010, TEPCO in Fukushima, 2011)
当抗议和突发事件发生时，环境债务偶尔会出现在公众的视野（2010年墨西哥湾，英国石油公司；2011年日本福岛，东京电力公司）
- The pedagogy of catastrophes. *Catastrophisme éclairé* (Jean Pierre Dupuy).
灾难教育学（让-皮埃尔·迪皮伊）

The Chevron-Texaco case in Ecuador

厄瓜多尔 雪佛龙—德士古公司案

- On 14th February 2011, Judge Nicolas Zambrano in a court decision in Sucumbios, Ecuador, fined Chevron Texaco with USD 9.500 million.
2011年2月14日，厄瓜多尔奥斯省尼古拉·摩尔诺法官对雪佛龙—德士古公司判处95亿美元的罚款。
- This court decision was ratified on 3 January 2012 before a three-member court in Sucumbios, and later on appeal in Quito.
奥斯省的三人陪审团宣布判罚在2012年1月3日生效，后在基多提起上诉。

The items in the compensation

判罚内容

- USD 600 million for cleaning up groundwaters 6亿美金用于净化地下水
- USD 5.396 million to clean up the soils in and around the wastewater ponds (based on the area in question). 53亿美金用于清理废水池周边土壤（根据所涉及到的区域）
- USD 200 million (10 million per year for 20 years) to recuperate flora and fauna 2亿美金用于恢复植被和生物（每年1000万美金，连续支付20年）
- USD 150 million to bring drinkable water into the area. 1亿5千美金用来为该地区提供洁净的饮用水
- USD 1.400 millones for damages which cannot be repaired such as lost health 14亿美金用于补偿无可挽回的伤害（如受损的健康）
- USD 100 million for cultural damages to indigenous groups and for “ethnic restoration” 1亿美金用于补偿原住民的文化损失，“重建种族文化”
- USD 800 million to improve public health in the area. 8亿美金用于改善当地的公共卫生
- Then, 10% on top of the above sums was granted to the Frente de Defensa de la Amazonia for management expenditures. 以上所有补偿的10%拨付给亚马逊防护前沿组织，作为管理费。

SUMMARY:

From metabolic flows to ecological distribution conflicts

<i>Geographical scope</i> ----- <i>Stage</i>	Local	National and Regional	Global
Extraction	Resource conflicts in tribal areas, such as bauxite mining in Odisha, oil extraction in Amazonia	Mangrove uprooting. Tree planting for export Collapses of fisheries	Worldwide search for minerals and fossil fuels, and bio-piracy by MNCs Regulation of "corporate accountability"
Transport and Trade	Complaints on urban motorways because of noise, pollution, landscape loss	Inter-basin water transport Oil/gas pipelines (e.g. Burma to Thailand) <i>Justiça nos trilhos</i> (against Vale, Brazil)	Oil spills at sea "Ecologically unequal exchange" because of large South to North material flows
Waste disposal and pollution, post-consumption	Conflicts on incinerators (dioxins二恶英) or ozone in urban areas	Acid rain from sulphur dioxide Nuclear waste, Yucca Mountain, Nevada, USA Ship dismantling (Alang)	CO ₂ , CFC as causes of climate change/ ozone layer destruction POPs even in remote pristine areas Claims for a "climate debt"

A third axis: the temporal dimension

小结：

从新陈代谢的流动到生态分配的冲突

阶段	地理区域 ----- 当地	国家和地区	全球
开采	部落地区的资源冲突，如奥里萨邦的铝土矿，亚马逊地区的石油开采	红树林被伐尽，种植用于出口的树种，渔业崩溃。	全世界对矿产和化石能源的勘探；跨国公司的生物剽窃；“企业责任”的规定
运输和贸易	抗议城市交通道路带来的噪音、污染和景观的消失	石油、天然气管道运输，以及内陆盆地的水路运输（如从缅甸到泰国） 铁路正义组织（对抗巴西淡水河谷公司）	海洋原油泄漏；因南半球原材料大量运往北半球导致“生态不平等交换”
废物处理、污染和消费后	抗议城区的焚化炉（产生二恶英）或臭氧	二氧化硫导致酸雨，核废料，美国内华达州雨卡山 船只拆卸（印度西海岸的阿朗港）	二氧化碳，氯氟烃成为引起气候变化、破坏臭氧层的元凶；持久性有机污染物甚至侵染了未开发地区；呼吁偿还“气候债务”

第三轴：时间纬度

STATISTICS AND MAPS OF ECOLOGICAL DISTRIBUTION CONFLICTS

The role of the EJOs (www.ejolt.org)

对生态分配冲突的统计与制图： 环境正义组织的职责

- On conflicts on water in Brazil, the MAB, the CPT, and in the world the IRN. 关注巴西的水冲突（MAB, CPT）以及世界的水冲突（世界河流网络IRN）
- On mining in Latin America, the OCMAL 关注拉美矿产（拉美矿业观察， OCMAL）
- On oil extraction, Oilwatch: 关注石油开采（石油观察， Oilwatch）
- On mangroves vs shrimp, RedManglar 关注红树林和虾业（红树林者， RedManglar）
- On land grabbing, GRAIN 关注土地攫取（国际基因资源行动， GRAIN ）
- On pesticides in agriculture, PAN, RAP-AL 关注农业杀虫剂（杀虫剂行动网络， PAN； 拉美反杀虫剂网络RAP-AL ）
- On tree-plantations conflicts, WRM 关注造林冲突（世界雨林运动， WRM）

Comparative, statistical Political Ecology

比较政治生态学、统计政治生态学

- From case-studies we move to produce inventories and (thematic and regional) maps of ecological distribution conflicts (as J F Gerber on tree plantation conflicts, in *Global Env Change*, 2011),
从案例研究到建立目录，以及按主题和地区绘制生态分配冲突地图
(如2011年《世界环境变化》上有关造林的冲突图)
- drawing on the activist knowledge of the EJOs.
利用环境正义组织的活动家知识
-

Why do EJOs arise?

为什么环境正义组织会兴起？

- Conflicts over biomass extraction (e.g., against deforestation, agro-fuels, overfishing), mining or oil and gas exploration and extraction, and water use (dams, river diversions, aquifers)
生物质开发方面的冲突（如反对砍伐森林，反对使用农业燃料，反对过度捕鱼），在采矿、石油和天然气的勘探和开采方面的冲突，以及水资源利用的冲突（如修建大坝、河流改道、破坏蓄水层等）
- There are also conflicts over transport and its infrastructures, and waste disposal (waste dumps or incinerators, air and soil pollution, electronic waste exports, ship-breaking)
也有关于运输、基础设施和废物处理方面的冲突（如垃圾场、焚化炉、空气污染、土壤污染、出口电子废弃物、废船拆卸等）

(Photo, Federico Demaria, UAB, 2010, Alang, Gujarat).



Why do EJOs arise?

为什么环境正义组织会兴起？

- The largest waste disposal conflict is over the oceans and atmosphere as dumping sites for excess CO₂.
最大的废弃物处理冲突是海洋和空气中排放的过量的二氧化碳。
- There are also many conflicts over the application of new technologies (cyanide in open pit gold mining, GMOs, nuclear energy) that cause uncertain risks that are unfairly distributed).
也有大量应用新技术造成的冲突（如露天金矿中的氰化物，转基因，核能），这对不同受众造成了不同程度的、不可预知的风险
- Need for statistics of environmental conflicts, for research on their causes (main cause: the growth of social metabolism).
有必要统计环境冲突，以研究其根由（主要原因：社会新陈代谢的增长）
- www.ejolt.org, www.ejatlas.org

Reactions and proposals 应对与举措

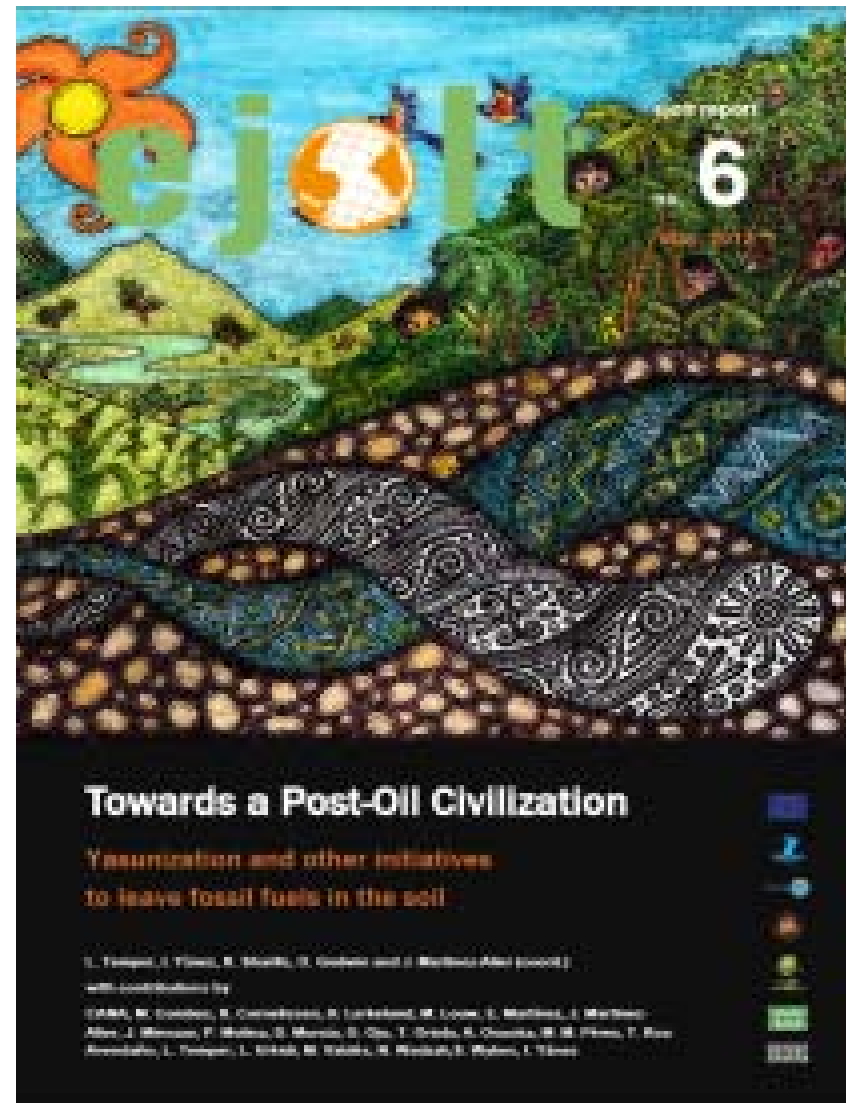
- In Peru, e.g., new **environmental justice organizations** (CONACAMI), new movements like *Tierra y Libertad* with Marco Arana.
秘鲁的新环境正义组织（CONACAMI）、新的社会运动，如马可·阿拉纳领导的土地与自由运动
- In Ecuador, a new **post-extractivist proposal** (Alberto Acosta), the Yasuni ITT.
厄瓜多尔有一项新的后采掘主义提案（能源矿产部部长阿尔贝托·阿科斯塔），亚苏尼倡议
- In Latin America, Africa, claims for the **repayment of the Ecological Debt** (as in Copenhagen Dec. 2009).
拉丁美洲和非洲呼吁偿还生态债务（2009年12月，哥本哈根会议）

The Yasuni ITT proposal: Unburnable Fuels. 亚苏尼倡议： 不可燃烧的燃料

- Ecuador proposed in 2007 to **leave oil in the ground** (850 million barrels) in the Yasuni ITT field – to respect indigenous rights, keep **biodiversity**, avoid **carbon emissions**. 2007年，为尊重原住民的权益、保护生物多样性、避免碳排放，厄瓜多尔提出要让亚苏尼油田的85亿桶原油沉眠于地底。
- They asked for **partial outside compensation**, 3.600 M US\$ – about one half of lost revenues. 他们因此要求外界对此作出部分补偿，36亿美元，价值约为石油储备的一半。
- The Trust Fund under UNDP administration was set up in August 2010. Investments would go for **energy transition and social investments**. 2010年8月联合国开发计划署成立信托基金，协助厄瓜多尔进行能源过渡和社会投资。
- This is an **initiative to be imitated**. We cannot burn all the oil, gas and coal in the ground at the present speed because of climate change. How to select the places where it is best to keep oil, gas or coal in the ground? 这是值得仿效的倡议。因为气候的改变，我们不能再以现有的速度烧光地下所有的石油、天然气和煤。我们该如何选择保存石油、天然气和煤的最好地点？

Ejolt report 6: Towards a Post-Oil Civilization. Yasunization and other initiatives to leave fossil fuels in the soil, 2013.

EJOLT项目报告 6: 走向后石油时代的文明: 亚苏尼倡议及其它倡议, 让化石燃料埋于地底, 2013



Vedanta and the Niyamgiri Hill

韦丹塔资源集团和奈彦吉利山

Activists and communities are sometimes able together with EJOs to stop destruction of habitats and livelihoods

活动家和社区有时会与环境正义组织合作，制止对栖息地和生计的破坏

L. Temper and J. Martinez-Alier, The god of the mountain and Godavarman: Net Present Value, indigenous territorial rights and sacredness in a bauxite mining conflict in India. *Ecological Economics*, 2013, 96: 79-87



The Niyamgiri hill in Odisha is sacred to the Dongria Kondh. It is still threatened by bauxite mining by the Vedanta company from London.

We could ask the Dongria Kondh: How much for your God? How much for the services provided by your God?

奥里萨邦的奈彦吉利山对东加里亚空达族来说是神山，因伦敦的韦丹塔公司开采铝土矿而遭受威胁。我们可以问东加里亚空达族，你们的神值多少钱？你们的神提供的护佑值多少钱？



Niyamgiri sal forest

Photo by Leah Temper, UAB

January 2007

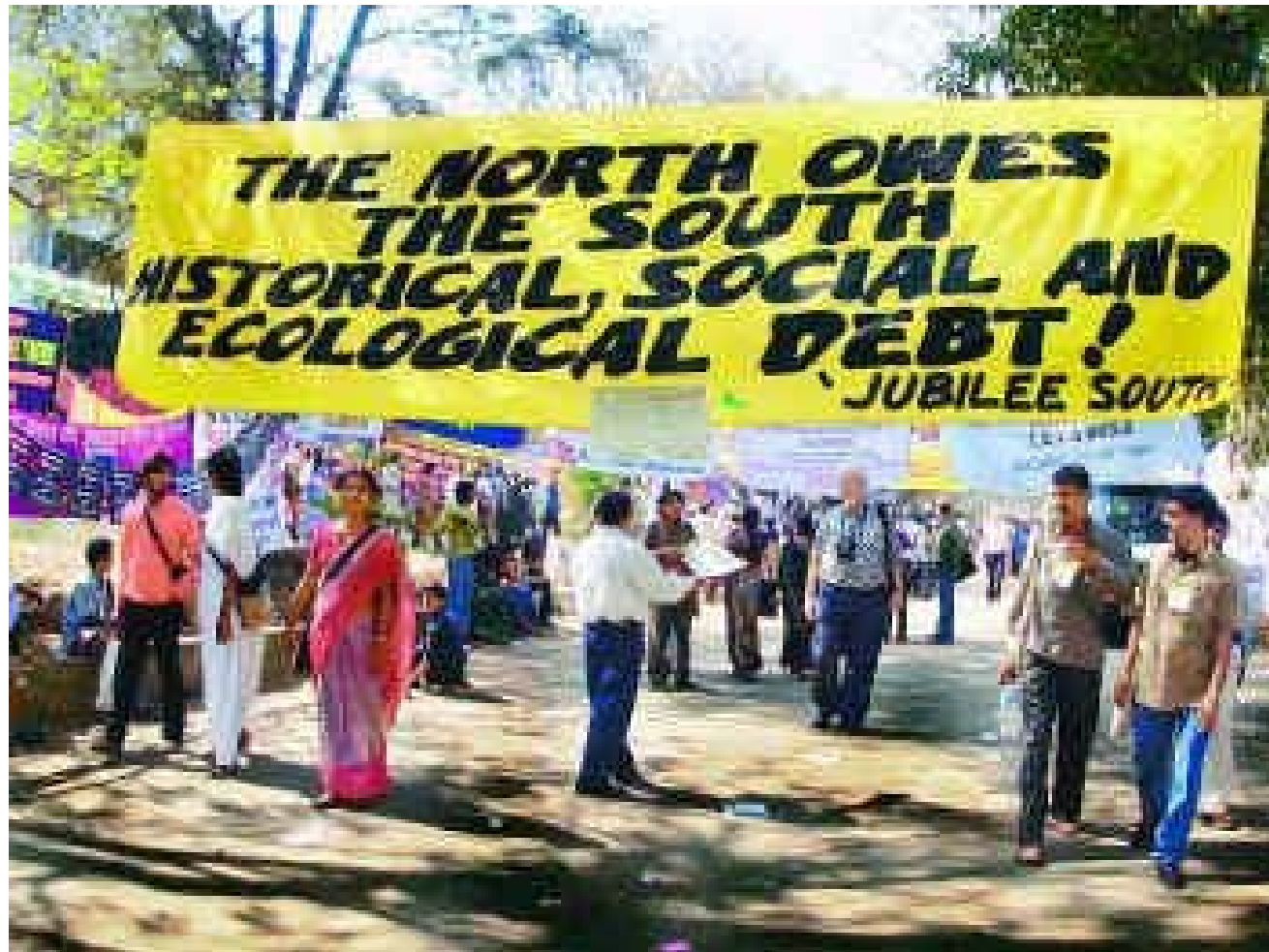
Valuation Languages 评估的语言

- **Who has the right (or the power) to simplify complexity and impose one language of valuation?**
谁有权利（或权力）化繁为简，强制人们用一种语言来估价？
- **Incommensurability of values is at the root of ecological economics (JMA, *Ecological Economics*, 1987).**
生态经济学的根基是价值的无可通约性（JMA, *Ecological Economics*, 1987）
- **Going back to the Socialist Calculation Debate of the 1920s-30: Otto Neurath vs. Von Mises and Hayek.**
回到20世纪20、30年代的社会主义大辩论：纽赖特与哈耶克

The EJOLT project (2011-15)

From activism to public policy and to science, claiming the Ecological Debt

EJOLT项目(2011—15):从行动主义到公共政策,再到科学,呼吁偿还生态债务



The Climate Debt 气候债务

- Not only the Climate Justice activists, also many governments of relatively poor countries now claim the **repayment of the ecological debt**, a slogan first raised in Latin America among the EJOs in 1991. 不仅仅是气候正义活动家，也有很多穷国呼吁别国偿还生态债务。1991年拉美地区环境正义组织首次提出了这一口号。
- The United States, the European Union and Japan do not acknowledge this debt. However, in Copenhagen in December 2009 at least 20 heads of government or ministers explicitly mentioned the ecological debt (or climate debt) in their speeches, some using also the loaded word “**reparations**”. 美国、欧盟和日本不认可这项债务。但在2009年12月的哥本哈根会议上，至少有20个政府首脑或部长在发言中明确提到了生态债务（或气候债务），有些还使用了带有感情色彩的“赔偿”一词。
- R. Warlenius, G. Pierce, V. Ramasar (2015) Reversing the arrow of arrears: The concept of “ecological debt” and its value for environmental justice *Global Environmental Change*. doi:10.1016/j.gloenvcha.2014.10.014

The Climate Debt: a money issue? 气候债务：钱的问题？

“admitting responsibility for the climate crisis without taking necessary actions to address it is like someone burning your house and then refusing to pay for it... It is entirely unjustifiable that countries like Bolivia are now forced to pay for the crisis

“承认对气候危机负有责任，却又不采取必要的行动加以解决，就如同有人烧了你的房子却拒绝赔付一样...玻利维亚这样的国家现在被迫要为气候危机付出代价，这绝对毫无道理

... Our glaciers dwindle, droughts become ever more common, and water supplies are drying up. Who should address this? To us it seems only right that the polluter should pay, and not the poor. We are not assigning guilt, merely responsibility. As they say in the US, if you break it, you buy it.

我们的冰川在消失，干旱肆虐，水资源面临枯竭。谁应该解决这些问题？对我们来说，显然应当是污染者付费，而不是穷人买单。我们不追究过失，但追究责任。就如美国人所说的：损坏赔偿”

Pablo Solon, Bolivia's ambassador to the UN, 2009
2009年玻利维亚大使巴勃罗·索伦在联合国的发言

From science to activism: Sustainable peasant agriculture cools down the earth

从科学到行动主义：可持续性小农农业让全球变凉



The EROI of agriculture and the Via Campesina 农业的能源投资回报率与农民之路

In the 1970s, taking up H. T. Odum's view of modern agriculture as "farming with petroleum", researchers did accounts of the EROI of agricultural systems. Best-known calculations, Pimentel (1973) in *Science*. It was striking to realize that the energy output-input ratio of corn production in Iowa or Illinois was lower than that for the old milpa corn production system of rural Mexico.

20世纪70年代，对于奥德姆的现代农业“用石油种田”的观点，研究者计算了农业体系的能源投资回报率。最有名的计算发表于《科学》（Pimentel 1973）。人们震惊地意识到，爱荷华州和伊利诺伊州玉米生产中能源投入产出率竟然低于墨西哥农村古老的玉米栽培体系。

From an economic point of view, modern agriculture increased productivity per unit of labour and to some extent per hectare but from a physical point of view, it lowered the energy efficiency.

从经济学的角度来看，现代农业提高了单位劳动力的生产率，在一定程度上也提高了每公顷土地的生产率，但从物理的角度来看，它降低了能量效率。

L' agricoltura contadina rinfresca la terra

小农农业让全球变凉

- Via Campesina, a peasant and small farmer international coalition is now very much present in the climate change debate,
农民之路，一个农民和小农的国际联盟，目前在气候变迁的讨论中相当活跃。
- its thesis: “sustainable peasant agriculture cools down the earth”
其主题：“可持续性的小农农业让全球变凉”
- an argument partly based on soil carbon accounts, and partly based on the fact that modern industrial agriculture is “no longer a producer of energy but a consumer of energy”. Studies on the EROI of agriculture back up this position.
该论点部分基于土壤中碳含量的计算，部分基于现代农业“不再生产能量，反而消耗能量”这一事实。农业能源投资回报率的研究支持这一结论。

J. Martinez-Alier et al, article in Journal of
Political Ecology, 2014

参见拙作：

Between activism and science: grassroots concepts for
sustainability coined by Environmental Justice
Organizations

- “在活动家与科学之间：环境正义组织所创造的有关可持续性的草根概念”，《政治生态学期刊》（2014年）

Some final comments on the
最后几点评论

Alliance between the EJOs (environmental
justice organizations) and the small
Degrowth movement in Europe
环境正义组织与欧洲缓增运动之结盟

1st International Conference on Degrowth, Paris, April 2008

(<http://www.degrowth.eu/>)

2008年4月，第一届国际缓增会议，巴黎

Economic De-Growth for Ecological Sustainability and Social Equity

Paris, 18-19 April 2008



www.degrowth.eu

- Degrowth conference in Barcelona 26-29 March 2010 (500 activists and academics).
2010年3月26—29日在巴萨罗那举行缓增会议（有500个活动家和学者参与其中）
- From activism to a research programme on the environmental, technological, demographic, social, socio-psychological aspects of “socially sustainable economic degrowth leading to a steady-state economy”. This largely overlaps with research on “socio-ecological transitions”
“社会可持续性经济的缓慢增长将使经济进入稳定状态”，这方面已经出现了从行动主义到研究项目（从环境、技术、人口、社会和社会心理等方面）转向。这在很大程度上与“社会—生态转型”的研究项目有重叠之处。
- In 2012-13 special issues on Degrowth in *Futures*, *Ecological Economics* / *Journal of Cleaner Production* / *Environmental Values* / *Capitalism, Nature, Socialism*.
2012—13年，《未来》、《生态经济学》、《更洁生产》、《环境价值》、《资本主义》 | 《自然》及《社会主义》等期刊都发行了关于缓增的特刊。

Degrowth: A Vocabulary for a New Era

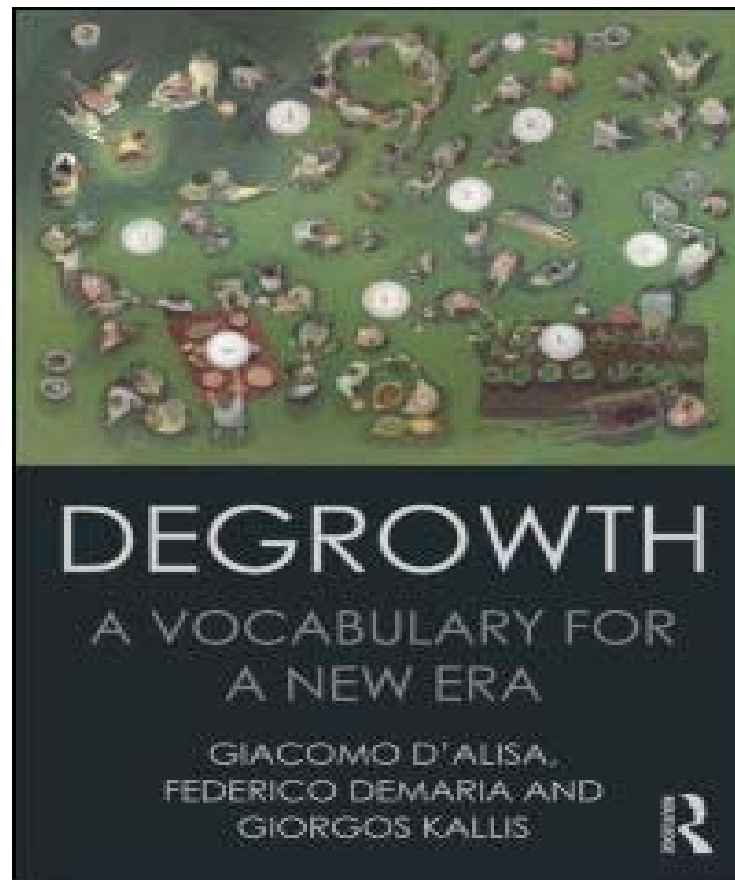
Edited by [Giacomo D'Alisa](#), [Federico Demaria](#), [Giorgos Kallis](#)

Routledge, London – 2014 – 220 pages

A new book on Degrowth from ICTA – UAB

西班牙巴塞罗那自治大学环境科学与技术研究所出版关于缓增的新书

《缓增：新世纪的词汇》（Routledge, 2014, 220页）



Degrowth leading to a steady state economy in terms of
social metabolism

从社会新陈代谢方面而言缓增将促使经济进入稳定状态

The new ecological macroeconomics without growth of

Peter Victor, *Managing without growth* (2008)

Tim Jackson, *Prosperity without growth* (2009)

新的没有增长的生态宏观经济学：

《无增长的管理》（Peter Victor 2008）

《无增长的繁荣》（Tim Jackson 2009）

Degrowth - was ist das eigentlich?

Die Schnecke ist das Symbol von Degrowth

缓增：那等于什么？

蜗牛是缓增的象征。

The Leipzig conference on Post-Wachstum, Sept. 2014,
3000 participants. Many talks also on Environmental
Justice.

2014年9月莱比锡举行后增长会议，与会者有3000之众。诸
多发言是关于环境正义。



The Southern EJOs' potential alliance with the small Degrowth movement in Europe

南方环境正义组织可能与欧洲缓增运动结盟

- Economic growth must be stopped in the North and cannot be stopped in the South.
北方国家必须停止经济增长，而南方国家不能。
- An alliance based on a common perspective against the hegemony of money accounting in favour of pluralism of values, support for feminist neo-Malthusianism, defence of human rights, indigenous territorial rights, and the Rights of Nature,
支持价值多元，反对以金钱衡量一切的霸权主义，支持女权主义的新马尔萨斯主义，维护人权，维护原住民的领地权，维护自然的权力，在此基础上结盟
- the recognition of the ecological debt, and the critique of ecologically unequal exchange because the export trade in commodities goes together with socio-environmental damage.
认识到存在生态债务，批评生态的不平等交换，因为商品的出口贸易与社会环境受损有关联。

Summer School on Degrowth and Environmental Justice

关于缓增和环境正义的暑期班

We have the pleasure of inviting you to the second edition of the summer school on degrowth offered by ICTA-UAB and Research & Degrowth, this year with environmental justice as a special focus.

The summer school will take place between the 6th and 15th of July 2015 at the premises of Universitat Autònoma de Barcelona and the social centers [Can Masdeu](#) (Barcelona) and [Can Decreix](#) (Cerbere), France.

我们诚邀各位参加西班牙巴塞罗那自治大学环境科学与技术研究所、研究及缓增组织共同举办的第二期缓增暑期班。今年的重点是环境正义。

暑期班将在2015年7月6日到15日在西班牙巴塞罗那自治大学、巴塞罗那社会中心（Can Masdeu）和法国社会中心（Can Decreix）举行。

Degrowth in action: Climate justice – Summer School 2015 in the Rhineland Coalfield, Germany

缓增在行动：气候正义——2015年暑期班在德国莱茵兰煤矿举行

The summer school “Degrowth in action: Climate Justice“ (August 9 – 14, 2015) is a follow-up project of the 4th International Degrowth Conference last autumn in Leipzig, where around 3000 people came together to discuss alternatives for an ecological and equitable society.

“缓增在行动：气候正义”暑期班（2015年8月9日—14日）是去年秋季第四届莱比锡国际缓增会议的后续，当时有3000人左右一起讨论建设生态和平等社会的替代方案。

This summer school picks up the momentum of this conference and takes it to the heart of a political conflict: the Climate Action Camp, situated on the brink of the Rhineland Coalfield, the biggest source of CO₂ in Europe.

本次暑期班将重振上次会议的威势，把暑期班办到政治冲突的中心：气候行动营就位于莱茵兰煤矿边上，这里是欧洲最大的二氧化碳排放源。