

Liberalism, Institutions, and Interdependence

Why cooperation under anarchy is possible, and what institutions, trade, and democracy do to it

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By the end of this unit, I should be able to answer these questions:

- What did Kant propose in 1795 as the conditions for a lasting peace, and which of them have been tested since?
- Why does a simple strategy of returning the other side's last move do so well in a repeated game, and what does that tell us about cooperation between states?
- What do international institutions do for states that they cannot do alone, and why does a realist think that is not much?
- How can trade between two countries be a source of power for one of them?
- What exactly does the democratic peace claim, what does it not claim, and how strong is the evidence?
- Why did the economic ties of 1914 not prevent the war, and what do liberals answer?

Every day, aircraft land in foreign countries under rules their crews did not write, letters cross borders for the price of a stamp, and goods worth tens of billions of dollars change hands between states that have no court above them. Unit 2 explained why cooperation between states is hard: there is no government above them, and a promise can be broken the moment it stops paying. This unit presents the tradition that starts from the same anarchy and reaches a different conclusion. Liberals hold that states cooperate far more than the fear of each other would predict, because of repeated dealings and the institutions built around them, trade and the dependence it creates, and the kind of government a state has at home. Each claim can be tested against evidence, and this unit tests all three, with the summer of 1914 as the hardest case the tradition has to face.

1 The liberal lineage

The word liberalism names a family of arguments rather than one theory, and the family has a founding text. In 1795 the philosopher Immanuel Kant (1724-1804), then seventy-one and teaching in Königsberg, published a short essay with the title *Perpetual Peace: A Philosophical Sketch*. He wrote it in the form of a peace treaty, with six preliminary articles (no secret reservations in a peace treaty, no standing armies in the long run, no interference in the constitution of another state, and so on) and three definitive articles that state the conditions under which peace could last. The three definitive articles are the frame of this unit, because each of them became a research programme two centuries later.

PRINCIPLES Kant's three definitive articles for a perpetual peace (1795)

1. The civil constitution of every state shall be republican. In Kant's sense this means a constitution in which the citizens are free and equal under law and in which their consent is needed for war; the modern reading is a constitutional democracy.

2. The law of nations shall be founded on a federation of free states. Kant insisted that this federation is a voluntary league of peace that secures the freedom of its members, and no world state; the modern reading is international institutions.
3. Cosmopolitan right shall be limited to conditions of universal hospitality. A stranger has the right not to be treated as an enemy when he arrives in another country; the modern reading is open commerce and the movement of people across borders.

Kant also said why the first article should matter. If, under a republican constitution, "the consent of the subjects is required to determine whether there shall be war or not, nothing is more natural than that they should weigh the matter well, before undertaking such a bad business", he wrote in Mary Campbell Smith's translation of 1903, because in decreeing war the citizens "would of necessity be resolving to bring down the miseries of war upon their country". They must fight themselves, pay the costs, and repair the damage, while a ruler who is not a citizen loses nothing of the kind. This is the oldest statement of what Section 5 calls the institutional explanation of the democratic peace. The three articles also give this unit its order, because Sections 2 and 3 test the second article with repeated games and institutions, Sections 4 and 6 test the third with interdependence and the war of 1914, and Section 5 tests the first with the record of wars between democracies.

The second strand of the lineage came from commerce. Richard Cobden (1804-1865), a Manchester cotton manufacturer, led the Anti-Corn Law League from 1838 until the British tariffs on imported grain were repealed in 1846, and in 1860 he negotiated the Cobden-Chevalier Treaty that lowered the tariffs between Britain and France. For Cobden free trade was a peace policy as much as an economic one, because he expected peoples who depended on each other's markets to resist their governments' wars. The most famous version of this argument was written half a century later by the journalist Norman Angell (1872-1967). His pamphlet of 1909 became the book *The Great Illusion* in 1910 and sold in many languages. Angell argued that in an economy built on credit and contract, conquest no longer pays: a victor who confiscates the wealth of the conquered destroys the credit on which his own wealth rests, and a victor who respects it gains nothing. Angell is often quoted as having said that war had become impossible, and he spent decades correcting this. In the preface to the 1913 edition he wrote that his argument "is not that war is impossible, but that it is futile". He received the Nobel Peace Prize in 1933, and Section 6 returns to what his argument did and did not predict.

The third strand turned the ideas into institutions. On 8 January 1918, with the First World War in its fourth year, the American president Woodrow Wilson (1856-1924) set out fourteen points for a peace settlement before Congress. The first three asked for open diplomacy, freedom of the seas, and the removal of economic barriers between nations, and the fourteenth asked for "a general association of nations" that would give "mutual guarantees of political independence and territorial integrity to great and small states alike". That association became the League of Nations, whose Covenant formed the first part of the Treaty of Versailles of 28 June 1919 and entered into force on 10 January 1920. Article 10 of the Covenant committed members to respect each other's territorial integrity, Article 11 declared any war a matter of concern to the whole League, and Article 16 promised that a member who went to war in breach of the Covenant would face the severance of "all trade or financial relations" by all other members. The United States Senate refused to consent to the treaty twice, in November 1919 and March 1920, and the country that had proposed the League never joined it. The record of the League in the 1930s belongs to Unit 8.

EXCURSION *The first Assembly, Geneva, November 1920*

The League of Nations was ten months old when the delegates of 41 member states met in Geneva on 15 November 1920 for the first session of its Assembly. Figure 1 shows the hall. The list of absentees already showed the League's weakness, because the United States had stayed out, Germany was not admitted until 1926, and the Soviet Union not until 1934.

The Covenant that the delegates had come to apply promised three things that no treaty had promised before: members would submit disputes to arbitration, to judicial settlement, or to the League's Council and would not go to war until three months after the award, they would treat an attack on any member as the concern of all, and they would reduce their armaments "to the lowest point consistent with national

safety", as Article 8 put it. None of the three promises had an enforcement mechanism beyond the members' own decisions, and whether such promises can hold without one is the question that the rest of this unit examines in modern form.



Figure 1. The first session of the Assembly of the League of Nations in Geneva, November 1920, photographed by Frank-Henri Jullien. Credit: Frank-Henri Jullien, public domain, via Wikimedia Commons.

When E. H. Carr (1892-1982) published *The Twenty Years' Crisis* in 1939, he called the thinkers of this tradition "utopians" who had mistaken their hopes for an analysis of how states behave, and the label "idealist" has stuck to them ever since. Liberals reject it, and the rest of this unit shows why: the claims of the tradition are claims about evidence, and they are tested with games, datasets, and documents like any other. The tradition has become a set of assumptions that its modern authors, above all Robert Keohane, Joseph Nye (1937-2025), and Michael Doyle, state as follows.

PRINCIPLES The core assumptions of liberalism

1. States are the main actors in world politics, but not the only ones. International organizations, firms, and groups within states act across borders and shape what governments want and can do.
2. What a state wants depends on its domestic politics. Preferences vary with who governs and who is heard at home, so two states in the same position may want different things.
3. Cooperation under anarchy is possible and common. The absence of a world government makes cooperation hard, but repeated dealings and reciprocity let states cooperate without one.
4. Institutions and interdependence change what states can do. They do not abolish anarchy or self-interest; they change the information, the costs, and the alternatives on which self-interested states act.

Realists share the first half of the first assumption and reject the rest; the second assumption is also the point where constructivism, the subject of Unit 4, begins.

2 The problem of cooperation

Unit 1 introduced the Prisoner's Dilemma, the two by two game in which each player does better by defecting whatever the other does, so that both end up defecting although both would prefer mutual cooperation. Table 1 shows the game with the payoffs that Robert Axelrod used in his tournaments: the temptation to defect against a cooperator $T = 5$, the reward for mutual cooperation $R = 3$, the punishment for mutual defection $P = 1$, and the sucker's payoff $S = 0$ for cooperating with a defector. Played once, the game has one Nash equilibrium, which is mutual defection, and that equilibrium is where two states that arm against each other, raise tariffs against each

other, or overfish a shared sea end up.

	B **Cooperates**	*B* **Defects**
A cooperates	(3, 3)	(0, 5)
A defects	(5, 0)	**(1, 1)**

Table 1. The Prisoner's Dilemma with Axelrod's payoffs. Each cell gives the row player's payoff first; the Nash equilibrium of the one-shot game, mutual defection, is set in bold.

States, however, rarely meet once. The same two governments negotiate tariffs this year and next, patrol the same border for decades, and sit in the same organizations for generations. In 1979 Axelrod, a political scientist at the University of Michigan, asked what strategy does best when the game is repeated, and he asked it in an unusual way. He invited game theorists to submit computer programs that would play the iterated Prisoner's Dilemma, which is the same game played round after round between the same two players, against each other in a round robin tournament, in which every program meets every other program, with 200 moves per game and each pairing played five times. Fourteen entries came in from economists, mathematicians, political scientists, psychologists, and a sociologist, and a fifteenth program that chose at random was added. The winner was the simplest program submitted, **tit for tat**: cooperate in the first round, and then do whatever the other player did in the previous round. It averaged 504 points per game, where 600 is the score of two players who cooperate throughout and 200 the score of two who never do. Axelrod published the results, circulated them, and ran a second tournament in 1980 with 62 entries from six countries, many of them designed to beat tit for tat. Tit for tat won again.

Why the simplest program won is the instructive part of the result. In Axelrod's first tournament, every one of the eight highest scoring programs was "nice", which means that it was never the first to defect, and none of the lower scoring programs was. Tit for tat never scores more than its opponent in any single game, since it can at most equal a cooperator and loses the first round to a defector, but it collects nearly the full reward from every cooperative program and pays only once to every exploiter. The following worked case shows this arithmetic over ten rounds.

WORKED CASE Tit for tat against two opponents over ten rounds

Consider three strategies with the payoffs of Table 1. *Always defect* defects in every round. *Tit for tat* cooperates first and then copies the other player's last move. *Grim trigger* cooperates until the other player defects once, and defects for ever after that.

Tit for tat against always defect: in round 1 tit for tat cooperates and the defector takes 5 points to its 0. From round 2 onwards tit for tat copies the defection, and both collect 1 point a round. After ten rounds the scores are $0 + 9 \times 1 = 9$ for tit for tat and $5 + 9 \times 1 = 14$ for always defect. Tit for tat loses the game, but by only 5 points, and the defector earns 14 where two cooperators would each have earned 30.

Tit for tat against grim trigger: neither strategy defects first, so both cooperate in every round and score $10 \times 3 = 30$ each. The same happens between tit for tat and itself and between grim trigger and itself. Always defect against itself scores $10 \times 1 = 10$, and against a player who always cooperates it scores $10 \times 5 = 50$ to that player's 0.

Now let each of the four strategies, always cooperate included, play each of the four once, itself included, and add up the totals. Tit for tat, for example, collects 30 against always cooperate, 9 against always defect, 30 against grim trigger, and 30 against itself, which adds up to 99. Counted in the same way, always cooperate collects $30 + 0 + 30 + 30 = 90$ points, always defect $50 + 10 + 14 + 14 = 88$, and grim trigger $30 + 9 + 30 + 30 = 99$. Figure 2 shows the cumulative scores of the pairings that matter. The strategy that never wins a single game, tit for tat, finishes level with grim trigger on the highest total, because it collects the reward of cooperation wherever cooperation is offered and limits its losses wherever it is not.

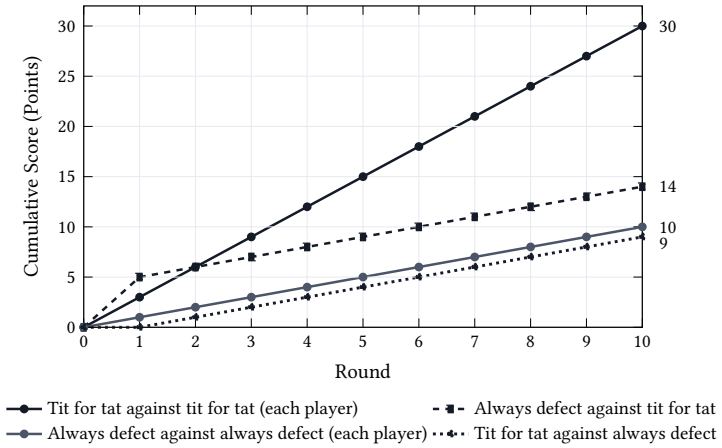


Figure 2. Cumulative scores over ten rounds of the iterated Prisoner's Dilemma with Axelrod's payoffs, computed as in the worked case. Two tit for tat players reach 30 each; against a player who always defects, tit for tat loses only the first round and finishes with 9 to the defector's 14, far below the 30 that cooperation would have given both.

Why does the repeated game change the result at all? Because a defection today is answered tomorrow, and tomorrow matters as long as there is likely to be one. Axelrod called the weight of the future the **shadow of the future** and measured it with a single number, the probability w that another round follows the current one. When w is small, the game is nearly a one-shot game and defection pays; when w is large, the loss of future cooperation outweighs the gain from a single defection. Between the two lies a threshold that can be computed.

KEY CONCEPT The shadow of the future and reciprocity

In a repeated Prisoner's Dilemma, the shadow of the future is the probability w that the players will meet again after the current round. A strategy of reciprocity, which returns cooperation for cooperation and defection for defection, can sustain cooperation between self-interested players when w is large enough; with Axelrod's payoffs the condition is $w \geq 2/3$. Below the threshold no promise of reciprocity makes cooperation pay, so the result explains cooperation between governments that expect to deal with each other for a long time, and its absence between those that do not.

CASE IN DETAIL Where the threshold $w \geq 2/3$ comes from

Suppose that player B plays tit for tat and that each round is followed by another with probability w. Player A compares the value of the whole future under different plans, where a payoff x received in round t counts $w^{t-1}x$, because that is the probability of reaching the round at all. The sum $1 + w + w^2 + \cdots$ is the geometric series of school mathematics, and it equals $1/(1-w)$ for any w below 1.

If A cooperates in every round, B cooperates too, and A expects

$$V_{\text{coop}} = R + wR + w^2R + \cdots = \frac{R}{1-w}.$$

If A defects in every round, A takes T once, after which B defects for ever and A receives P in every later round:

$$V_{\text{defect}} = T + \frac{wP}{1-w}.$$

Cooperating is at least as good when $R/(1-w) \geq T + wP/(1-w)$. Multiplying both sides by $(1-w)$ gives $R \geq T(1-w) + wP$, that is, $R \geq T - w(T-P)$, which rearranges to $w \geq (T-R)/(T-P)$. With $T = 5$, $R = 3$, and $P = 1$ this gives $w \geq 2/4 = 1/2$.

A cleverer A might alternate, defecting in odd rounds and cooperating in even ones, so that tit for tat is always one step behind: A then receives T and S in turn, and because this pattern repeats every two rounds its value is $(T + wS)(1 + w^2 + w^4 + \cdots) = (T + wS)/(1 - w^2)$. Cooperation beats this plan when $R/(1-w) \geq (T + wS)/(1-w^2)$. Since $1 - w^2 = (1-w)(1+w)$, this is the same as $R(1+w) \geq T + wS$, which rearranges to $w \geq (T-R)/(R-S)$, and

with $S = 0$ this gives $w \geq 2/3$. The stricter of the two conditions is the threshold in the Key Concept, and it is the condition under which Axelrod showed tit for tat to be collectively stable: once everyone plays it, no single player gains by switching to anything else.

CHECK YOUR UNDERSTANDING Question 1

Player B plays tit for tat, the payoffs are Axelrod's (5, 3, 1, 0), and the probability of another round is $w = 0.6$. Which plan is best for player A?

(A) Cooperating in every round, because 0.6 is above the threshold of 1/2

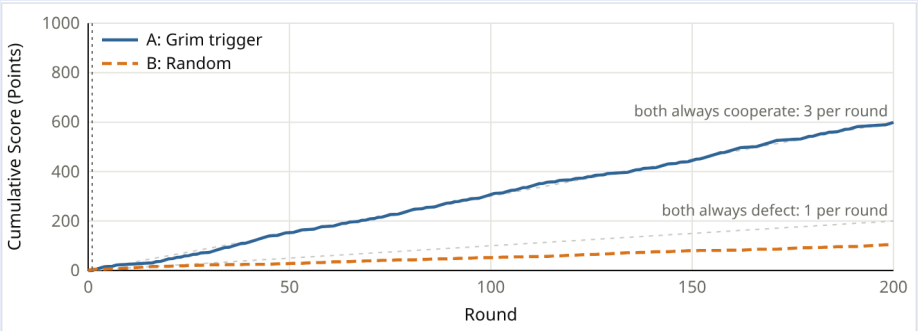
(B) Defecting in every round, because 0.6 is below the threshold of 2/3

(C) Alternating defection and cooperation, because 0.6 lies between the two thresholds

(D) No plan can be compared, because the thresholds apply only when $w = 1$

The solution is at the end of the unit.

INTERACTIVE Axelrod's tournament in miniature



Choose a strategy for each of the two players and move the slider for the shadow of the future w, the probability that another round follows; the element plays 200 rounds with Axelrod's payoffs (5, 3, 1, 0) and draws the cumulative score of each player, with readouts of the final scores and of the value of the whole future to each player at that w. It starts with grim trigger against a random player: after the first random defection, marked by the dotted line, grim trigger defects for ever and pulls far ahead while the random player collects almost nothing. Set tit for tat against always defect to see it lose only the first round, and set two reciprocating strategies against each other to see them collect the full 3 points a round.

Click the picture or this link to try it in the online version of this unit.

Reciprocity in a game between two programs is one thing; cooperation among the 193 member states of the United Nations is another, and the tournament itself shows four limits. With many players it is often unclear who defected, so that retaliation hits the wrong party or nobody. When moves are observed with error, two tit for tat players who misread one cooperative move as a defection fall into a chain of mutual punishment, each answering the other's last defection, that neither intended. When the last round is known in advance, defection pays in that round, because nothing can follow it, and then also in the round before, because a defection there can no longer be punished, and so on backwards until the whole structure unravels. And the shadow of the future is a property of the relationship, so a government that expects to be replaced, or a state that expects a war, gives the future little weight, or, in the language of the model, discounts it steeply. Each of these limits is a reason why states build institutions, the subject of the next section, and why they care about the expectations of others, the subject of Unit 4.

The program that won both tournaments was written by Anatol Rapoport (1911-2007), a professor of psychology and mathematics at the University of Toronto and one of the founders of peace research, and it was, as Axelrod wrote when he published the results, the simplest of all the programs submitted. Tit for tat is not the best possible strategy against any particular opponent, since always defect beats it in every game, but it does well with the whole population of strategies it meets. In his book *The Evolution of Cooperation* of 1984 Axelrod summarized the properties of successful strategies in four words: nice, retaliatory, forgiving, and clear. A government that is never the first to break an agreement, answers a breach at once, returns to cooperation as soon as the other side does, and is predictable in all of this, is practising diplomacy in the form of Rapoport's program.

3 What institutions do

The realist of Unit 2 has a ready answer to Section 2: cooperation that rests on reciprocity between two players needs no institution, and cooperation among many players breaks down for the reasons just listed, so international organizations are either unnecessary or ineffective. The liberal reply was given its modern form by Robert Keohane in *After Hegemony: Cooperation and Discord in the World Political Economy*, published in 1984. Keohane accepted the realist starting point, namely that states pursue their own interests under anarchy, and asked what such states would want institutions for. His answer is a functional one, which means that it explains institutions by what they do for the states that create them: institutions are demanded because they do four things that the four limits of the repeated game require.

KEY CONCEPT International institution and regime

An **international institution** is a persistent and connected set of rules, formal or informal, that prescribes roles, constrains activity, and shapes expectations; an international organization such as the World Trade Organization is an institution with a building, a staff, and a budget, but a treaty or an established practice is an institution too. An **international regime**, in the definition given by Stephen Krasner in 1982, is a set of "implicit or explicit principles, norms, rules, and decision-making procedures around which actors' expectations converge in a given area of international relations", such as trade, nuclear non-proliferation, or the law of the sea. Both terms describe rules that outlast the particular bargains struck under them.

Figure 3 sets the four functions against the situation of two states without any institution. First, institutions provide **information**. A state that reports its tariffs, its arms holdings, or its emissions to a common body, and whose reports can be checked, lets its partners see whether it is keeping its word, and the problem of knowing who defected becomes solvable. Second, they lower **transaction costs**, which are the costs of negotiating, writing, and enforcing an agreement. Once a forum, a procedure, and a body of agreed definitions exist, the hundredth agreement is far cheaper to make than the first, which is why states that could in principle settle every question bilaterally still do most of their business in standing organizations. Third, they make **commitments credible**. A government that breaks a rule inside an institution is seen to break it by every other member, and its reputation in all future dealings in that institution suffers; the cost of one defection rises from the loss of one partner's goodwill to the loss of many. Fourth, they allow **issue linkage**. Inside a regime that covers many subjects, a concession on one can be paid for by a concession on another, so that agreements become possible which no single issue would have allowed.

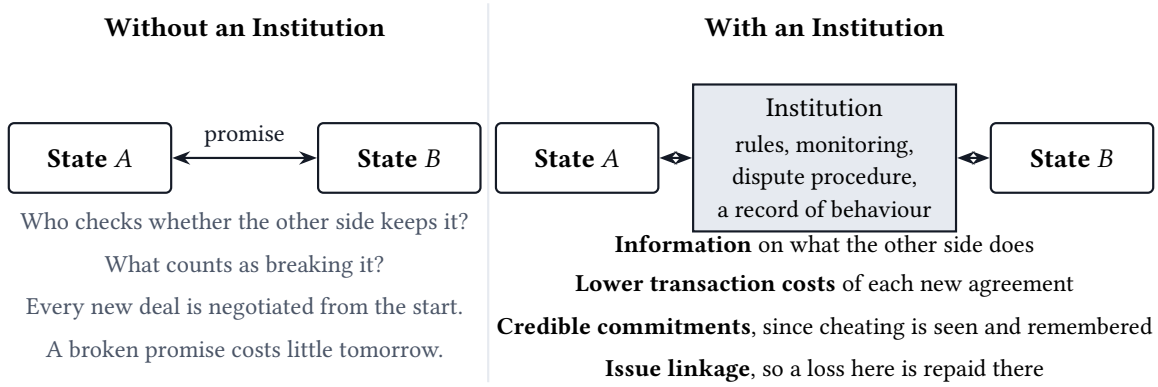


Figure 3. Two states with and without an institution. On the left, a promise between *A* and *B* raises four questions that neither can answer alone. On the right, the institution between them answers them through the four functions that *After Hegemony* (1984) describes: information, lower transaction costs, credible commitments, and issue linkage. Own drawing.

None of this requires an institution to have power over its members. In Keohane's account institutions change the costs and the information on which self-interested states act, and that is all they need to do. The claim can be tested, and the test case that gave the book its title concerns what happened to the economic institutions founded after 1945 when the state that had founded them lost the position of dominance it had held.

KEY CONCEPT Hegemonic stability theory

Hegemonic stability theory holds that an open and stable international economy needs a single dominant state, a **hegemon**, that is willing and able to supply its rules and its public goods, that is, the services that benefit every trading state whether or not it pays for them: a currency that others can hold, a market open to others' exports in bad times, and a lender of last resort that lends when no one else will. The idea comes from the economist Charles Kindleberger's study of the depression of the 1930s, the name from Keohane in 1980. The theory predicts that cooperation declines when the hegemon's lead declines, and this prediction is what *After Hegemony* tests against the 1970s.

WORKED CASE Cooperation after the hegemon: the end of Bretton Woods

From 1 to 22 July 1944, delegates of 44 nations met at Bretton Woods in New Hampshire and founded the International Monetary Fund (IMF) and the World Bank. The monetary system they agreed tied every member's currency to the US dollar at a fixed rate and the dollar to gold at 35 dollars an ounce, that is, for about 31 grams of gold, which made the United States the system's anchor. Charles Kindleberger (1910-2003) argued in *The World in Depression* (1973) that the slump of the 1930s had become a world catastrophe because Britain could no longer play that anchoring role and the United States would not yet play it; the system of 1944 was built so that this time somebody would.

On 15 August 1971 President Richard Nixon (1913-1994) announced that the United States would no longer exchange foreign governments' dollars for gold. An attempt to repair the fixed rates in December 1971 failed within fifteen months, and from March 1973 the main currencies floated against each other, which means that their exchange rates were set by the market from day to day. The anchor was gone, and the United States' share of world output had been falling for two decades. Hegemonic stability theory predicts that cooperation should then have declined. It did not. The IMF lost its original task and acquired new ones in the debt crises of the following decades. The General Agreement on Tariffs and Trade (GATT), the trade regime of 1947, completed the Tokyo Round, a negotiation on tariff cuts named after the city where it opened, between 1973 and 1979 with 102 participating countries, which was more than had ever negotiated before. The central banks and finance ministries of the leading economies coordinated their policies through new bodies rather than old ones. Keohane's conclusion was that the

regimes outlived the conditions of their creation, because once institutions exist they are cheaper to keep than to rebuild, and states that value the information and the credibility they supply keep using them when the hegemon is gone.

If institutions are tools that states design for these functions, their design should vary with the problem, and it does. Barbara Koremenos, Charles Lipson, and Duncan Snidal set out five recurring design choices in a 2001 special issue of the journal *International Organization* on the rational design of institutions: membership, scope, centralization, control, and flexibility. Four of them matter here.

- Membership can be universal or restricted to a club.
- Scope can cover one issue or many.
- Flexibility can be built in through escape clauses and review conferences, so that a member hit by a shock can bend a rule without breaking the regime.
- Centralization decides whether enforcement rests on the members' own retaliation or is delegated to a court or a panel.

The World Trade Organization (WTO), founded on 1 January 1995 as the successor of the GATT, took the last option further than any other global institution, and its first dispute shows what a delegated procedure supplies.

WORKED CASE Institutions at work: the first WTO dispute

On 24 January 1995, three weeks after the WTO opened, Venezuela asked the United States for consultations about a rule under the US Clean Air Act that set standards for the composition of gasoline. The rule allowed American refiners to measure their improvement against their own 1990 output, while imported gasoline had to meet a fixed statutory baseline, which Venezuela and later Brazil, whose refiners sold gasoline to the United States, considered discrimination against imports. Bilateral talks produced no change, and the dispute, registered as DS2, took the path that Figure 4 shows.

The WTO's Dispute Settlement Body, in which every member sits, established a panel of three independent experts on 10 April 1995 and joined Brazil's complaint to it on 31 May. The panel's report, circulated on 29 January 1996, found that the rule treated imported gasoline less favourably than domestic gasoline, in breach of the national treatment clause of Article III of the GATT, which requires imported goods to be treated no worse than domestic ones once they are inside the country, and that the exception for the conservation of natural resources in Article XX did not cover it. The United States appealed on 21 February 1996 to the Appellate Body, the standing panel of seven members that heard appeals on points of law. Its report of 29 April 1996 corrected the panel's reading of the exception but upheld the result, and on 20 May 1996 the members adopted both reports. Under the WTO's rules a report is adopted unless every member, the winner included, decides against it, so adoption is automatic in practice. The United States was given fifteen months to comply, changed its rule, and reported implementation on 19 August 1997.

What did the institution supply that bilateral talks had not? A procedure with deadlines that a small exporter could start against the largest economy in the world, a ruling by third parties on what the rules meant, publication of that ruling to all members, and a compliance deadline whose breach would have entitled the complainants to retaliate with the members' approval. The result is that the rule was changed within two and a half years of the first request. The ruling did not question the United States' right to regulate air quality; it defined what counted as a breach, which is the information function of Figure 3 performed by a court. By the end of 2024, by the WTO's own count, members had filed 631 such requests for consultations. The system has also shown the limit of delegated enforcement, because new appointments to the Appellate Body require the agreement of all members and have been blocked, so that it has had too few members to hear appeals since December 2019.

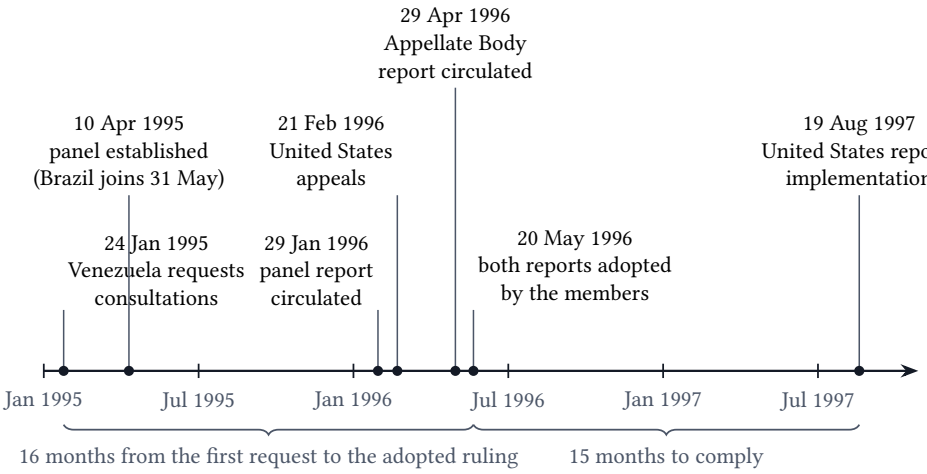


Figure 4. The timeline of WTO dispute DS2, United States: Standards for Reformulated and Conventional Gasoline, from the first request for consultations to the United States' report of implementation. Dates from the WTO's case page and one-page summary, read November 2026. Own drawing.

The realist objection to all this was put by John Mearsheimer in a 1994 essay in the journal *International Security*, "The False Promise of International Institutions", which Unit 2 presents as its research spotlight. His argument is that institutions reflect the distribution of power and the interests of the strong, that states worry about relative gains, that is, about who gains more from a deal, as well as absolute ones, and that the record shows institutions to have had little independent effect on whether states go to war. Keohane and Lisa Martin answered in the same journal in 1995. They accepted that institutions are created by the powerful for their own purposes and replied that this is exactly what the functional theory predicts; the question is whether, once created, institutions change outcomes, and the evidence of the trade and monetary regimes after 1971 says that they do. They also pointed out that the concern with relative gains is itself a reason to want institutions, because only an institution can supply the information that tells a state how the gains are being divided. The two positions still define the debate, and they share more than they dispute: both assume self-interested states under anarchy and disagree about how much the rules those states make then constrain them.

CHECK YOUR UNDERSTANDING Question 2

A realist objects that institutions are built by the strongest states for their own purposes and therefore show nothing about cooperation. What does the functional theory of After Hegemony reply?

(A) It agrees that the powerful build institutions and asks whether, once built, they change outcomes, which the regimes after 1971 suggest they do

(B) It denies that power plays any part in the creation of institutions, since states join them voluntarily and on equal terms

(C) It replies that institutions acquire power over their members through their secretariats and can enforce rules against the strong

(D) It accepts the objection and restricts the theory to institutions among small states of similar strength

The solution is at the end of the unit.

RESEARCH SPOTLIGHT
Robert O. Keohane *Princeton University*

Why there is no single institution for climate change, and what the many do instead

Climate change is the kind of problem for which the functional theory predicts a strong demand for an institution, since no state can solve it alone and every state can free-ride, that is, enjoy the cuts in emissions made by others without making its own. Yet no single, integrated regime governs it. Robert O. Keohane, professor of international affairs emeritus at the Princeton School of Public and International Affairs, and David G. Victor of the University of California, San Diego, asked in a paper published in 2011 in *Perspectives on Politics* why that is and what has grown instead.

They describe a **regime complex**: a loosely coupled set of specific institutions with no hierarchy among them. Around the United Nations Framework Convention on Climate Change and its Kyoto Protocol they map the clubs of large emitters, the summits of the G8 and the G20, bilateral partnerships, the Montreal Protocol on the ozone layer, which has cut warming gases as a side effect, the World Bank's funds, and the European Union's emissions trading system. Their explanation uses the tools of this section: the problems that make up climate change differ in their functional demands, the interests, power, and information of states differ across them, and institutions, once built, persist, so a single regime would have to be bargained among states too diverse to agree on one.

The paper then weighs the result against six criteria: coherence, accountability, effectiveness, determinacy (how clearly the rules say what is required), sustainability, and epistemic quality (how well the rules fit the scientific knowledge). The climate regime complex of 1997 to 2008, dominated by the Kyoto institutions, scored low on all six in their reading, lowest on coherence and accountability. What a regime complex offers that a single treaty cannot is flexibility across issues and adaptability over time, which matter most where uncertainty is high and governments differ in what they can implement. The authors take no position on what any government should do about emissions, and neither does this unit.

Read the paper: Keohane and Victor (2011), The Regime Complex for Climate Change, Perspectives on Politics 9, 7-23

4 Interdependence as power

Institutions are the modern reading of Kant's second article. The modern reading of the third, commerce and contact across borders, is interdependence, and its analysis also began with Keohane, this time with Joseph Nye, in *Power and Interdependence* of 1977. The book's first point is that dependence between states is almost never symmetric, and that the asymmetry is a resource. Its second point is that two states can be dependent on each other in two different senses, and that the difference decides who holds the resource.

KEY CONCEPT **Sensitivity and vulnerability interdependence**

Sensitivity measures how quickly and how costly a change in one country is felt in another while policies stay as they are: a rise in the price of oil, a harvest failure, or a closed border hurts a sensitive partner at once. **Vulnerability** measures the cost that remains after the partner has had time to change its policies, which depends on the alternatives available to it and on what they cost. Two states may be equally sensitive to each other and very unequally vulnerable, and in a conflict it is the less vulnerable one that can afford to let the relationship break. Asymmetric vulnerability is therefore a source of power, as Keohane and Nye argued in 1977.

The argument was older than the book. The economist Albert O. Hirschman (1915-2012), who had watched Germany's trade policy of the 1930s from exile, showed in *National Power and the Structure of Foreign Trade* (1945) how a large state can make small trading partners dependent on its market and then use the threat of

closing it. A small state that sends a large share of its exports to one neighbour, and that cannot sell them elsewhere at short notice, has given that neighbour a lever; the neighbour, for whom the same trade is too small a share to notice, has given nothing comparable in return. The following case measures such an asymmetry with current data.

WORKED CASE Asymmetric interdependence: Mongolia and China in 2023

Mongolia, a landlocked state in East Asia between Russia and China, reported to the United Nations trade database UN Comtrade that in 2023 it exported goods worth 15.18 billion US dollars, of which 13.85 billion, or 91 per cent, went to China, and imported goods worth 9.25 billion, of which 3.75 billion came from China. Its trade with China therefore came to 17.6 billion dollars. The World Bank puts Mongolia's gross domestic product (GDP) for 2023 at 20.3 billion dollars, so the trade with its southern neighbour amounted to 87 per cent of everything the Mongolian economy produced in the year.

China reported for the same year imports from Mongolia of 13.12 billion and exports to Mongolia of 3.47 billion dollars, together 16.6 billion, against a GDP of 18,270 billion dollars. The same trade was 0.09 per cent of the Chinese economy, about one dollar in every 1,100.

Suppose the trade stopped. Mongolia would lose, in the first year, exports worth more than two thirds of its GDP, mostly coal and copper for which the nearest alternative buyers lie across Russia or across the sea, and it would lose them before new routes could be built; its sensitivity is extreme and its vulnerability only a little smaller. China would lose a supplier of coal and copper that other suppliers could replace within months; its sensitivity is small and its vulnerability close to zero. The asymmetry means that Mongolia would bear almost the entire cost of a rupture, and in any dispute between the two that fact is known to both sides before a word is said. It does not mean that China can dictate Mongolian policy at no cost, because using the lever also costs China its reputation as a reliable market and gives Mongolia a reason to pay for alternatives. The two countries' figures differ slightly because each records trade at its own border; both were read in November 2026.

Hirschman's lever is the dark side of interdependence. The bright side is the **commercial peace**, the claim of Cobden and Angell that states which trade heavily with each other fight less, because war would cost them the trade. The claim has been tested on the same kind of datasets that Section 5 uses, in which pairs of states are observed year by year, and the results depend on how trade is measured. John Oneal and Bruce Russett (1935-2023) found in a series of studies from 1997 onwards that pairs in which trade was large relative to the GDP of the more dependent partner had fewer militarized disputes, which are the threats, displays, and uses of force between states that fall short of war. Katherine Barbieri, measuring interdependence by the share of each state's trade that went to the partner, found in 1996 that the most interdependent pairs had more militarized disputes rather than fewer. Erik Gartzke argued in 2007 that open capital markets and economic development, rather than trade as such, keep developed economies at peace, a pattern he called the "capitalist peace". The sign of the relationship is therefore still argued over, and the argument is about measurement: whether dependence should be measured against the size of an economy, as the vulnerability concept suggests, or against the size of its trade.

CHECK YOUR UNDERSTANDING Question 3

Two neighbouring states each buy a quarter of their imports from the other. If the trade stopped, both would feel it within weeks, but one could find other suppliers within a year at a small extra cost, while the other has no port and no rail link to anyone else. Which description is correct?

(A) Both states are equally interdependent, so neither gains any power from the relationship

(B) The state without alternatives is more sensitive, and sensitivity is what gives the other state power

(C) The state with alternatives is more vulnerable, because it would have to pay more for its imports

(D) Both states are equally sensitive, but the state without alternatives is far more vulnerable, which gives the other a lever

The solution is at the end of the unit.

5 The democratic peace

Kant's first article made a prediction about republics, and in 1983 Michael Doyle checked it against the record. In two articles in the journal *Philosophy and Public Affairs*, "Kant, Liberal Legacies, and Foreign Affairs", he listed the states with liberal constitutions since the eighteenth century and the wars between them and found that liberal states had fought many wars, but almost none against each other. The finding set off the largest research programme in the field, and what the programme claims has to be stated exactly, because it is often overstated.

KEY CONCEPT The democratic peace

The **democratic peace** is the statistical regularity that pairs of democracies very rarely go to war with each other, and have fewer militarized disputes with each other than other pairs, over the whole record since the early nineteenth century. The claim is **dyadic**, which means that it is about pairs of states. A **monadic** claim, that democracies are more peaceful in general, is a different claim, and the record does not support it, because democracies have fought non-democracies about as often as other states have fought. The regularity is a fact about the data, with its coding rules stated; the explanations for it, and whether democracy is the cause, are what the research debates.

The strength of the regularity is best seen in numbers, and the following case takes them from one of the first studies to test it against the whole record of pairs of states.

WORKED CASE Counting wars between democracies, 1816 to 1965

Stuart Bremer published in 1992, in the *Journal of Conflict Resolution*, a study of every pair of states in the Correlates of War data between 1816 and 1965, a population of 202,778 pair-years, where one pair-year is one pair of states observed for one calendar year. A war onset was recorded in the year in which a pair began an interstate war with at least 1,000 battle deaths, the Correlates of War threshold of Unit 1, and 85 such onsets occurred. Democracy was coded in two ways, with a classification by Steve Chan that required an elected executive and an elected legislature able to constrain it, and with the Polity II index of institutionalized democracy, on which Bremer counted a state as democratic from a score of 5 out of 10. Table 2 gives the results.

Coding	Pair Type	Pair-Years	War Onsets	Onsets per 1,000 Pair-Years
Chan	Both democratic	21,644	1	0.05
Chan	One democratic	78,349	14	0.18
Chan	Neither democratic	99,580	70	0.70
Polity II	Both democratic	22,859	2	0.09
Polity II	One democratic	80,668	25	0.31
Polity II	Neither democratic	80,801	36	0.45

Table 2. War onsets between pairs of states from 1816 to 1965 by the democracy of the pair, under two codings of democracy. Pair-years with missing data are omitted. Source: Bremer (1992), Table 1, Journal of Conflict Resolution 36, 309-341.

Under the Chan coding, a pair of non-democracies began a war in 0.70 of every 1,000 pair-years and a pair of democracies in 0.05, so that war between two non-democracies was about fourteen times as likely as between two democracies. The one war between democracies in that coding is the Franco-Thai war of 1940, which began after the Vichy government had replaced the French Republic; the two under the Polity coding are the Spanish-American war of 1898 and the India-Pakistan war of 1965. Bremer also showed what the dyadic claim does and does not mean: under the Chan coding, pairs with one democracy fought less than pairs with none, but under the Polity coding they did not differ significantly, which is why the regularity is stated about pairs of democracies and not about democracies.

Two explanations compete, and both go back to Kant. The **institutional explanation** says that democratic leaders are constrained: they need the consent of legislatures and voters who bear the costs of war, they can be removed for a war that goes badly, and their decisions are visible to other governments, which makes their threats and their promises easier to read. Two such governments facing each other can therefore bargain their way out of a crisis that two governments whose decisions are hidden from each other cannot. The **normative explanation** says that democracies settle their domestic conflicts by compromise and law and extend the same expectations to other states they recognize as democracies, while expecting nothing of the kind from autocracies; this predicts peace within the group and no restraint outside it, which fits the dyadic pattern.

The critics have attacked the finding at several points. Christopher Layne, in the 1994 essay “Kant or Cant” in *International Security*, examined four crises in which democracies came close to war, such as Britain and France at Fashoda in 1898, and argued that they were resolved by calculations of power rather than by shared norms. David Spiro, in the same issue, argued that democracies were so few and so far apart for most of the record that zero wars between them is close to what chance would produce; Bremer himself had computed the probability of seeing zero wars in his 21,644 democratic pair-years if democracy made no difference, and found it near one in a thousand, which is small but, as he put it, far from impossible. Henry Farber and Joanne Gowa showed in 1995 that the regularity is strong only after 1945, when the democracies were allies against a common adversary, and asked whether common interests rather than common institutions explain the peace. Gartzke’s capitalist peace of 2007 attributes the pattern to the development and open markets that democracies happen to share.

The coding of democracy is itself disputed in the borderline cases, as Table 2 shows: whether Spain in 1898 or Imperial Germany in 1914 counts as a democracy decides whether the record has zero exceptions or a few. Håvard Hegre, whose forecasting work is the spotlight of Unit 1, reviewed thirty years of this debate in 2014 and concluded that the dyadic finding has largely withstood the objections, while the question of whether democracy itself is the cause, rather than the development and the interests that come with it, remains open. What would settle it is more history: as the number of democracies has grown, the number of pairs in which the regularity can fail has grown with it, and the next decades of data are the test.

CHECK YOUR UNDERSTANDING Question 4

A study counts all the interstate wars since 1816 and finds that democracies have taken part in about as many wars, relative to their number, as other states. Does this finding contradict the democratic peace?

(A) Yes, because the democratic peace predicts that democracies fight fewer wars than other states

(B) No, because the democratic peace is a claim about pairs of democracies, and the study counts wars of single states against anyone

(C) Yes, unless the study used the Polity index, in which case the coding explains the difference

(D) No, because wars before 1945 do not count towards the democratic peace, which concerns the Cold War decades

The solution is at the end of the unit.

6 1914 as the hard case

Every tradition has a case that its critics cite first, and for the commercial peace that case is the summer of 1914. Europe before the First World War was more integrated by trade, capital, and migration than it would be again until the 1970s, Britain and Germany were each other's major customers, and they went to war within weeks of a crisis in the Balkans. The following case measures how large the ties were, from the two governments' own statistical yearbooks.

WORKED CASE How much did Britain and Germany trade in 1913?

The British Board of Trade's *Statistical Abstract for the United Kingdom* for 1899 to 1913 records that the United Kingdom exported goods of its own produce worth 525.2 million pounds in 1913, of which 40.7 million went to Germany. Only British India, with 70.3 million, bought more; the United States, the third market, bought 29.2 million. Imports into the United Kingdom came to 768.7 million pounds, of which 80.4 million were consigned from Germany. The German *Statistisches Jahrbuch für das Deutsche Reich* of 1915 records exports of 10,097 million marks in 1913, of which 1,438 million, or 14.2 per cent, went to Britain, the largest single market for German goods; imports from Britain were 875 million of 10,770 million marks, or 8.1 per cent. Table 3 puts the four figures side by side. The two sources do not match exactly, because each country recorded the trade at its own border and in its own currency, with about 20.4 marks to the pound.

Flow in 1913	Value	Share of the Total
British exports (own produce) to Germany	40.7 million pounds	7.7%
British imports from Germany	80.4 million pounds	10.5%
German exports to Britain	1,438 million marks	14.2%
German imports from Britain	875 million marks	8.1%

Table 3. Trade between the United Kingdom and Germany in 1913 as each government recorded it. Sources: Statistical Abstract for the United Kingdom, No. 61 (1899 to 1913), Tables 34 and 35; Statistisches Jahrbuch für das Deutsche Reich 1915, Table 9 of the foreign trade section; both read November 2026 in the Internet Archive's scans.

The result is that Britain was Germany's largest export market and Germany was Britain's second largest, after India, in the last full year before the war, and the two were at war seven months after the year closed, on 4 August 1914. No reading of the commercial peace that claims trade prevents war survives

this case.

What, then, had Angell claimed? The 1913 preface quoted in Section 1 gives the answer. He had claimed that war between such economies would be futile, and he had never claimed that it would not happen; on his own claim the war is evidence for him. By 1918 both Britain and Germany were poorer than in 1913, the victors could not collect the indemnity they imposed, the payments demanded from the defeated, without damaging their own economies, and Angell's sequel of 1921 was called *The Fruits of Victory* for that reason. The liberal theory of Section 4 makes a weaker claim still, that interdependence raises the cost of war and therefore lowers its probability, and a lowered probability is consistent with the war happening. Erik Gartzke and Yonatan Lupu examined the case on these terms in 2012, in *International Security*, and pointed out that the war did not begin between the most interdependent states of Europe. It began between Austria-Hungary and Serbia, in the far less integrated east of the continent, and spread to the interdependent west through the alliance commitments that Unit 2 described. On their reading, interdependence did what the theory says in the west and was absent where the war started. Realists answer that this concedes the point, because it was the alliances and the balance of power, and not the trade, that decided whether Britain fought, and that a theory which is overridden by alliances in the one case that matters most explains little. Unit 6 returns to 1914 with the bargaining model of war and asks a different question, why the governments of 1914 could not find a settlement that all preferred to the war they got.

A phrase that appears in every current debate about world politics also belongs to this tradition. The **liberal international order** is the name G. John Ikenberry has given to the set of institutions built mainly by the United States after 1945, namely the United Nations, the Bretton Woods bodies, the trade regime, and the alliances, together with the rules that they carried, which were open markets and multilateral decision, that is, decision among many states rather than by one. Ikenberry argued in 2018, in the journal *International Affairs*, that the order is in crisis but not finished; Mearsheimer argued in 2019, in *International Security*, that it was bound to fail because it rested on a unipolar moment that has passed. Whether the phrase describes the world of 1945 to 2008 accurately, and what, if anything, is replacing it, is the closing question of Unit 8, which compares the orders of 1648, 1815, 1919, 1945, and 1991. The realist and the constructivist accounts of that order, from Units 2 and 4, will be set beside the liberal one there.

KEY POINTS

- Liberalism rests on Kant's three definitive articles of 1795: republican constitutions, a federation of free states, and universal hospitality, read today as democracy, institutions, and interdependence.
- In a repeated Prisoner's Dilemma, reciprocity sustains cooperation between self-interested players when the shadow of the future is long enough; with Axelrod's payoffs, tit for tat makes cooperation pay once the probability of another round reaches 2/3.
- Institutions do four things for states: they provide information, lower transaction costs, make commitments credible, and link issues. The regimes of 1944 outlived the dominance of their founder, which is the evidence of *After Hegemony*.
- Interdependence is a source of power when it is asymmetric, and vulnerability, the cost that remains after a state has adjusted, matters more than sensitivity; Mongolia's trade with China is 87 per cent of its GDP and 0.09 per cent of China's.
- The democratic peace is a regularity about pairs: in Bremer's data for 1816 to 1965, war between two non-democracies was about fourteen times as likely as between two democracies, while democracies fought non-democracies as often as anyone.
- Britain and Germany were each other's first and second export markets in 1913 and at war in 1914; the case refutes the claim that trade prevents war and leaves open the weaker claim that it makes war less likely.

Solutions to the questions in the text: 1-C, 2-A, 3-D, 4-B. The online version of this unit explains each answer.