

MORTIMER WHEELER LECTURE

## Crop Plants and Cannibals: Early European Impressions of the New World

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**Summary.** Within a few years of the initial contact, American crop plants and one important bird (the turkey) began to reach Europe. American exotica, including native artifacts as well as flora and fauna, attracted the interest of taxonomists, physicians, botanists, gardeners and collectors of “curiosities”, but the new crop plants did not become staple foods until the seventeenth century or later. The existence of peoples not mentioned by Biblical or Classical sources, and with strange and “barbarous” customs, raised questions for European intellectuals, and the debates about the status of the Indians coincided with (and were one of the stimuli for) the transition from a late medieval world view to an early modern one. In other respects the contribution of the New World to sixteenth century Europe was minimal, though Amerindians—and in particular Feathered Savages—became a popular theme in the decorative arts. The case study leads to a more general consideration of the limitations to borrowing between very dissimilar cultures.

THERE SEEMS TO HAVE BEEN general agreement, from 1492 to the present, that the first contact between the Old and New Worlds was a major event in human history. This was certainly the opinion expressed in 1552 by Francisco López de Gómara (who served as secretary to Cortés in Spain,

**Table 1.** American plants and animals established in the Old World, 1492 to the present.

maize	Brought by Columbus 1493. Cultivated near Seville ca. 1500 and in kitchen gardens near Avila 1530. N.W. Iberia ca. 1520; S. Tyrol 1565; England 1562. By Turks to Egypt 1517. Africa by 1550. China in 1550s. Brought by Columbus 1493	Sauer 1976:824; Hawkes & Francisco-Ortega 1992:95; McNeill 1991; Woodward 1971:288
kidney beans ( <i>Phaseolus</i> species)		Sánchez Tellez 1990; Clusius herbal 1583
squash/pumpkin		Whitaker 1947
potato	<i>Cucurbita pepo</i> in European herbals from 1542, and <i>C. maxima</i> in 1591; <i>C. moscata</i> (via Asia) ca. 1688; <i>C. ficifolia</i> (via Asia) ca. 1800. Seville 1573; Italy before 1587; Britain by 1590s. Staple in Ireland by 1625. Asia late 18c.	Hawkes 1967, 1992; McNeill 1991 Hawkes & Francisco-Ortega 1992; Woodward 1971:222-3; Hobhouse 1992
sweet potato	Brought by Columbus 1493; Cultivated Spain, prob. 1516-57, and certainly by 1564-5. Widespread in Europe by 1590s. China by 1594. Africa 16c.	Hawkes & Francisco-Ortega 1992:95 Honour 1976:43; McNeill 1991; Woodward 1971:220-21 Woodward 1971:172-3
Jerusalem artichoke manioc/cassava	Widespread in Europe by 1590s W. Africa and Congo before 1600; E. Africa and Madagascar late 18c. India ca. 1800	Sturtevant 1969:183 Jennings in Simmonds 1976:83 Sturtevant 1969:184
arrowroot	From Brazil to Africa late 16c, Now pan-tropical	McCue 1952; Hamilton 1976:859; Woodward 1971:79-81
tomato	Italy by 1554; widespread in Mediterranean and beyond by 1590s	Andrews 1984
chili pepper	Spain 1493; Italy 1526; Balkans before 1569. Widespread in Europe in 16c., India by 1542, then throughout Asia	Heiser in Simmonds 1976:15-18; Woodward 1971:170-72 Woodward 1971:58-9
sunflower	Europe by 1568; England by 1590s. Large scale commercial oil production in 1860 Gerard's garden, London, before 1597	Pickersgill in Simmonds 1976:36-8; Honour 1976:47
nasturtium ( <i>Tropaeolum</i> )	Used to provision 16c. ships. Spread by Spain to Philippines and by Portuguese to Madagascar and India. One raised in England 1720	Sauer 1976:828, n. 24; Jones in Simmonds 1976:237-42
pineapple	N. American <i>Fragaria virginiana</i> seeds to Europe by 1556; cultivated by 1624. Chilean <i>Fragaria chiloensis</i> to Europe 1714. Both are major contributors to modern commercial breeds	
strawberry	Cultivated Malaga (Spain) by 1790	Sauer 1976:826
papaya	Cultivated Malaga (Spain) by 1790	Sauer 1976:826
cherimoya (custard apple)		

- red mulberry  
passion fruit  
avocado
- In England before 1629  
19c commercial introduction to Africa and Pacific  
16c to Madeira and Canaries. Andalusia by 1790. Main spread  
throughout Old World in 19c  
Spread by Spain to E. Asia and Philippines, and by Portuguese  
from Brazil to Africa, thence to India. ?1521-9 to Malaysia;  
China ca. 1538. Spain and Italy 1784-9. France early 19c
- peanut
- Introduced from Brazil to India and E. Africa, initially to  
control coastal erosion, 16c  
From Spain to Philippines. Now widespread in Asia and Pacific  
17c to Asia and W. Africa. Growing in S. Spain by 1790.  
Taken to Celebes 1560, Philippines 1679
- cashew nut
- Introduced from Brazil to India and E. Africa, initially to  
control coastal erosion, 16c  
From Spain to Philippines. Now widespread in Asia and Pacific  
17c to Asia and W. Africa. Growing in S. Spain by 1790.  
Taken to Celebes 1560, Philippines 1679
- Yam bean/jicama  
cacao
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- vanilla
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- allspice
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- sarsaparilla
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- tobacco
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- quinine (*Chinchona*)
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- coca
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- rubber
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- henequen/sisal
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- prickly pear (*Opuntia*)
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- cochineal insect (for dye)
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- turkey
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- Muscovy duck
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- guinea pig
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- mink, coypu and muskrat  
(for fur)
- Harvested wild until late 18c. Today a plantation crop in  
Madagascar, Seychelles, Réunion  
Cultivated Malaga (Spain) 1790  
Europe by 1690s  
C. Europe 1554. Angoulême (France) 1556. Italy, Germany, Britain  
before 1600. Taken by Portuguese to Africa and Asia 16c  
Bark imported to Europe from ca. 1640. Plantations in India,  
Java, Ceylon 1850-80  
Distributed from Kew Gardens, London, as commercial crop to  
Africa and Java late 19c  
To Malaysia and Ceylon 1876; commercial plantations from 1890s  
Philippines and Indonesia 16c. Commercial plantations in  
Africa late 19c
- Jarvis 1973:486  
Smith in Simmonds 1976:301-24  
Bergh in Simmonds 1976:149-50;  
Sauer 1976:826  
Krapovickas 1969; McNeill 1991;  
Gregy & Gregy in Simmonds  
1976:151-4
- Woodroof 1979:219  
Smith in Simmonds 1976:385  
Cope in Simmonds 1976:285-9,  
385-9; León 1959;  
Sauer 1976:826; Sanchez Tellez 1990
- Smith in Simmonds 1976:317  
Sauer 1976:826  
Woodward 1971:202-5  
Hamilton 1976:861-5;  
Woodward 1971:90-95  
van Harten in Simmonds 1976:255-6;  
Hobhouse 1992:3-40  
Smith in Simmonds 1976:301-24
- Wycherly in Simmonds 1976:77-80  
Wienk in Simmonds 1976:1-4
- Donkin 1977  
Donkin 1977  
Schorger 1966  
Donkin 1989  
Harris 1992:55

but had never set foot in America). In the opening sentence of the dedication of his *Historia de las Indias* he wrote:

The Discovery of the Indies, what we call the New World, is, excepting only the Incarnation and Death of Him who created it, the most important event since the creation of the world (López de Gómara 1965:5).

This is a rather too Hispanic view of history. I would prefer to phrase it more moderately and to say that after 1492 neither Europe nor America was ever the same again.

In this chapter, and taking a flexible 1600 as my cut-off point, I review some of the ways in which contact with the Americas affected the economic and intellectual life of Europe.

### Economic Products: American Plants and Animals in Europe

With the possible exception of syphilis (Brothwell, this volume) most of what Europe took from the New World was adopted by design rather than by accident. The process was, however, very selective. Because the technological and cultural differences between America and Europe were so great, there was little in the American repertoire that could be easily incorporated into the everyday life of the Europeans. Apart from the hammock, quickly adopted by European sailors and made official issue in the Royal Navy in 1596 (Morison 1978:22), all the important early borrowings were foodstuffs, mainly plant foods, plus a few medicinal plants and other botanical curiosities. These crops, brought into cultivation thousands of years before the European arrival, are America's greatest contribution to human well-being on a world scale.

In Table 1 are listed plants and animals that have become established outside their original homelands in the New World. The list ignores other important products (gold and silver, emeralds, dyewoods, balsams and drugs, furs, salt cod, etc.) that were shipped to Europe and Asia in the sixteenth century, but arrived there in the form of raw materials rather than as ecological transplants (Sauer 1976; Hamilton 1976). Of the crops transplanted from the New World to the Old, maize and potatoes come third and fourth (after wheat and rice) in the FAO figures for global production (McNeill 1991), and manioc, or cassava, is not far behind. The Table does not attempt to include minor items, such as the venomous American toad *Bufo marinus* that was imported to Europe soon after the Columbus voyages and became a favourite with Italian poisoners (Davis and Weil 1992:52).

It is impossible in a short essay to discuss the travels of all these American plants and animals, but in order to provide a small sample of European attitudes, we can look at the reactions of the sixteenth century British

(conservative eaters even in those days) to some of the new and exotic products.

### Maize

Maize is today a major source of nourishment in Asia and Africa, as well as Europe. It was widely grown in European gardens before 1600, but did not become a staple crop until much later, and even then in only a few localities, notably the Balkans, the Danube Basin, northern Italy and parts of north-west Iberia. (Sauer 1976:824; McNeill 1991). The first written



**Figure 1** Frontispiece to the 1597 edition of John Gerard's *Herball*, showing the author holding a flowering branch of the potato plant. Photograph courtesy of J. G. Hawkes.

The forme of the eares of Turkey Wheat.

*Frumenti Indici spica.*

Turky Wheat in the huske, as also naked or bare.

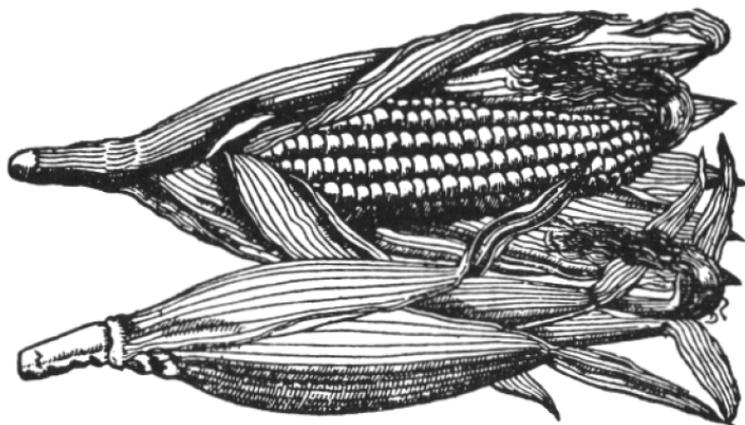


Figure 2 Maize cobs (here called Turkey Wheat) in John Gerard's Herball, 1597.

description in Europe is by Guglielmo Coma in 1494 (Honour 1976:41), and the earliest illustration of maize appears in the herbal of Leonhard Fuchs, published in Basel in 1542. In this work Fuchs calls the plant "Turkish corn" and says that it was a recent introduction from Turkey, Asia and Greece (Heiser 1973:100). The first mention in Britain comes from another Herball, this one by John Gerard, supervisor of Lord Burghley's garden in the Strand (London) and proprietor of his own private botanical garden in Holborn (Figures 1 and 2). In 1597 he wrote of maize:

Turky wheat doth nourish far lesse than either wheat, rie, barley or otes. The bread which is made thereof is meanelly white, without bran: it is hard and dry as Bisket is, and hath in it no clamminesse at all; for which cause it is of hard Digestion, and yeeldeth to the body little or no nourishment. Wee have as yet no certaine prooffe or experience concerning the vertues of this kinde of Corne; although the barbarous Indians, which know no better, are constrained to make a vertue of necessitie, and thinke it a good food: whereas we may easily judge, that it nourisheth but little, and is of a hard and evill digestion, a more convenient food for swine than for man (Woodward 1971:26).

In many parts of Europe maize has, in fact, found a new use as a fodder crop. Gerard gives the alternative names Turkey corne, *Milium Indicum* and Mais, and was aware that it had come to Europe from America, by way of Spain.

## Potato

Popular legend credits Sir Walter Raleigh and Sir Francis Drake with the introduction of the potato into England, but there is no factual evidence to support these claims (Hawkes 1967, 1992). The earliest reference to European-grown potatoes is in the purchasing-records of a Seville hospital for the year 1573 (Hawkes and Francisco-Ortega 1992), and from Spain the plant seems to have spread to Italy before 1587, and then throughout much of Europe as a botanical curiosity rather than as a staple food.

The history of the potato's arrival in Britain is complex, and Hawkes (1967:259) argues for an independent introduction some time between 1588 and 1593. Whatever the truth of the matter, the first published drawings come from the Herball of our friend John Gerard in 1597. The frontispiece of his book shows the author holding a flowering branch of the potato plant in his hand (Figure 1), and inside is a botanical drawing of what is clearly an Andean potato (Figure 3). Gerard, who had a reputation for inaccuracy, gave it the misleading name *Batata virginiana* and wrongly believed it was native to North America, though he also cites the term *Pappus* (i.e. "papas") by which potatoes are known in South America today (Woodward 1971:222–223).

*Batata Virginiana* sine *Virginianorum*, & *Pappus*,  
Virginian Potatoes.

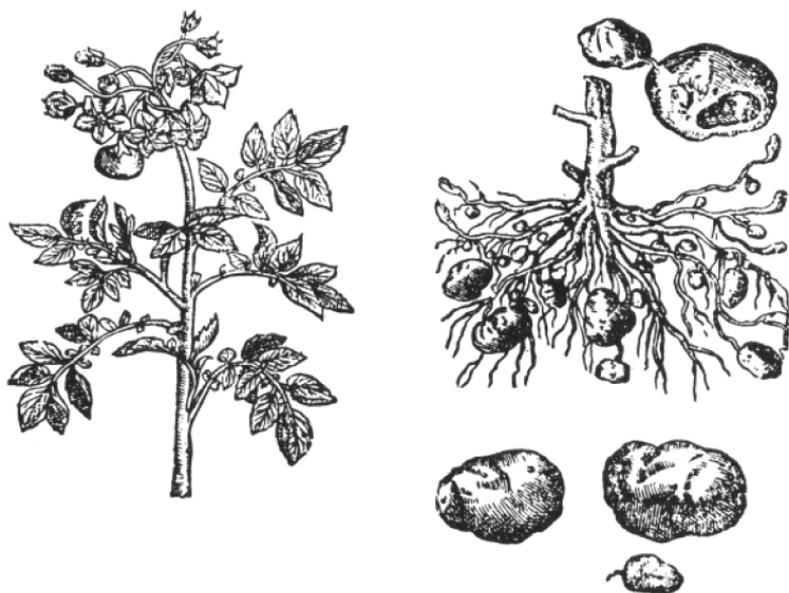


Figure 3 The first published engraving of a potato plant, from John Gerard's Herball, 1597.

In the sixteenth century there was much confusion over the new root crops arriving from America. The English word potato is derived from *bataata*, an Amerindian word for the sweet potato, which was used by European confectioners to make “comfortable delicat Conserves and restorative sweet-meats” (Woodward 1971:221). Belief in the sweet potato’s qualities as an aphrodisiac was widespread at the popular level. In Shakespeare’s *The Merry Wives of Windsor* (Act V, Sc. IV), at the moment when the ageing, but still amorous, Falstaff is about to pounce on Mistress Ford, he exclaims:

Let the sky rain potatoes; let it thunder to the tune of *Green Sleeves*; hail kissing comfits and snow eringoes; let there come a tempest of provocation.

The restorative properties of the sweet potato seem to have been transferred to the Andean potato. Gerard recommends a meal of potatoes to liven up sexual potency (McNeill 1991), and the botanist Clusius, in 1601, remarked of the potato that “some use it for exciting Venus” (Honour 1976:44). Like other American crops (tomatoes or “love apples”, vanilla, chocolate) the potato had a short-lived vogue as an aphrodisiac among the rich, but, presumably because it did not live up to expectations, the tubers soon lost their popularity and became the food of the poor.

Several writers condemned the potato’s flatulent or “windie” qualities, and a minister of the church protested against it on the grounds that if God had intended the potato as food for man it would have been mentioned in the Bible (Heiser 1973:138). Except in Ireland, where it became the staple of the peasantry by about 1625, after the Cromwellian wars, the potato remained a mere garden crop or cattle food in most European countries until 1650, almost a century after its first introduction (McNeill 1991; Hobhouse 1992:192).

### **Tobacco**

There is a story that one Rodrigo de Jerez, who had learned to smoke in Cuba when he was there with Columbus, made the mistake of demonstrating his skill in his home town in Spain. The consequences were disastrous. When the smoke came out of his mouth and nose the townspeople assumed he was possessed by the devil, and the unfortunate man was imprisoned by the Inquisition (Tate 1989:108). Smoking continued to have its detractors but, after the initial shock, tobacco quickly gained a reputation as a universal medicine everywhere in sixteenth century Europe.

Tobacco seeds reached France in the 1550s, and the plant was cultivated experimentally near Angoulême. The famous Spanish physician,

Nicolás Monardes (in 1571), provided a long text on the virtues of tobacco, maintaining that it could cure headaches, migraine, rheumatism, pains in any part of the body, stomach ache, asthma, shortness of breath, obstruction of the chest or of the intestines, and also wind, colic, poisonous bites, stings, abscesses, flesh wounds and sores, as well as burns, chillblains, ringworm and dropsy. It could also expel worms, stop bleeding, prevent dental decay, and counteract arrow poisons (including those of the West Indian Caribs) (Hamilton 1976:861–865). This description was cited by Gerard, with additional details of his own (Woodward 1971:90–95).

Botanical illustrators soon began to depict the tobacco plant. In 1554 Konrad von Gesner, of Zürich, raised some plants from seed and then had one of them recorded in a watercolour drawing, and, soon afterwards, tobacco flowers appear, quite incongruously, in the margins of an illuminated Prayer Book made for Albrecht V of Bavaria (Honour 1976:42–43).

In popular belief, Walter Raleigh is said to have introduced smoking into Britain. A stronger candidate is Sir John Hawkins, in about 1565, but Raleigh's part in the story may not be pure fiction. John Aubrey's *Brief Lives*, an uninhibited compendium of seventeenth century gossip, gives the following information: "Sir Walter was the first that brought Tobacco into England and into fashion . . . Sir W. R. . . . at Sir Robert Poyntz park at Acton (which was built by Sir Robert's Grandfather to keep his Whores in) tooke a pipe of Tobacco, which made the Ladies quitt till he had done" (Aubrey 1962:319). True or false, then, the Raleigh story is an old one. The anti-smoking lobby has an equally long history. In 1604 King James I issued his *Counterblast to Tobacco*, and simultaneously raised the Customs duty from 2d per pound to 6s10d. Popes Innocent X and Urban VIII went still further, and excommunicated smokers.

### **Capsicum (chili pepper)**

Plants of this American group are the source of the world's most popular condiment. Hot peppers were described by some of the earliest travellers to the New World and were among the first plants brought back to Europe (Andrews 1984: Chap. 3). The oldest European record comes from Spain (1493), followed by Italy in 1526 and central Europe soon afterwards. In 1542 Leonhard Fuchs, professor of botany at the University of Tübingen, published his *De historia stirpium commentarii insignes*, in which he provided accurate illustrations of three different races of Capsicum, employing the names "Calicut" and "Indian" pepper and noting that the plant had been introduced from a distant country a short time before 1542.

In the early sixteenth century, the generic term “Calicut” was used indiscriminately for all the newly discovered lands, including America, which, until Magellan’s voyages, had been considered a part of Asia (Massing 1991:516; see also Honour 1976:7, 13). The botanist Clusius (Charles de l’Écluse, director of the imperial gardens in Vienna and professor of botany at Leiden) illustrated several varieties of pepper in his *Curae posteriores* (published in 1611, after his death) and gave the following information:

This capsicum, or Indian pepper, is painstakingly grown in Castilia by both gardeners and housewives . . . I remember having seen, in 1585, vast plantations of it in the suburbs of Brunn, this famous town in Moravia; pepper means a considerable income to the gardeners, because it is commonly used by most people (cited in Andrews 1984:25).

Nearer home, in London, John Gerard in his Herball of 1597 reutilized Clusius’s plates of thirteen kinds of chili, and commented that peppers “were verie well knowne in shoppes at Billingsgate by the name of Ginnie [Guinea] pepper” (Andrews 1984:26–27). This misleading usage was still current in Britain as late as 1640 (Andrews 1984:26–27).

### Turkeys

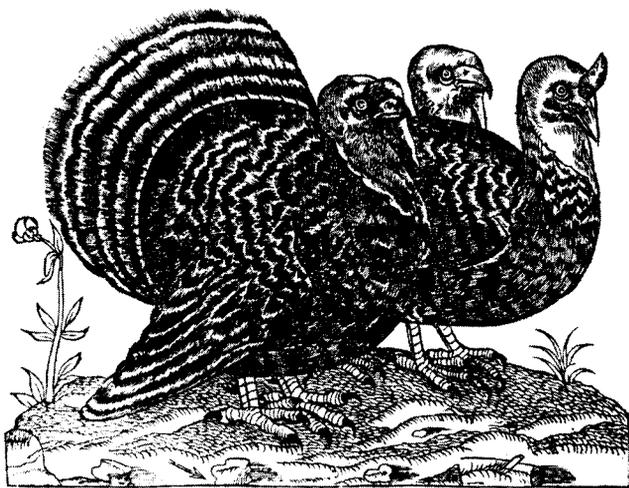
In another section of his work, Aubrey (1962:29) refers to the popular belief about the introduction of the turkey into Britain: “After the 15th year of Henry VIIIth divers things were newly brought into England, whereupon the Rythme was made—

Greeke, heresie, Turkey-cocks and Beer [i.e. hops]  
Came into England all in a yeare.”

The year would be 1524, and this is a surprisingly early record, though the information about hops is correct and gives credence to the rest of the list.

Schorger (1966:463–489) provides extensive documentation on the introduction of the turkey into Europe. The earliest reliable record comes from a royal document in the Archivo de Indias, Seville, dated 24 October 1511, ordering Miguel de Passamonte, chief treasurer of the Islands and Tierra Firme, to send male and female turkeys from the New World to establish a breeding stock in Spain. By 1512 a pair of birds had arrived from Hispaniola and were handed over to the Bishop of Valencia. Turkeys are recorded in Italy by 1524, in France by 1538, Germany sometime after 1530, Persia by 1607, and not later than 1612 in India, where the Mogul Emperor Jahangir had one painted by Ustād Mansūr (this painting is now in the Victoria and Albert Museum, London).

By the middle of the sixteenth century turkeys were plentiful all over



**Figure 4** Turkeys. After P. Belon (Bellonius) *L'histoire de la Nature des Oyseaux*, Paris 1555.

Europe (Figure 4), appearing in recipe books and also in paintings, engravings and sculpture (Schorger 1966: Chap. 19; Honour 1976:37–39). The English cleric, Archbishop Cranmer, in 1541 insisted that there should be only one kind of fowl in any dish, and from 1555 there is information that turkeys were served (at a cost of four shillings each) at the Serjeants-at-Law dinner in London. The first appearance of the turkey at an English Christmas dinner dates to 1585 (Harris 1992:54). During the reign of Elizabeth I (1558–1603) the birds were reasonably common, under the name “Ginny [Guinea] Cock” as well as “Turkey Cock”.

### Guinea pig

Even the guinea pig had some admirers in Europe. By 1601 these animals were on sale in Rome (Harris 1992:55), and soon afterwards Isaak van Oosten (1613–61) included guinea pigs in his painting of the Garden of Eden, now in the Victoria and Albert Museum (Meddens n.d). Edward Topsell in his *Historie of the Four-Footed Beastes* (London 1607) uses the phrase “Indian little Pig-Cony” for the creature, and the earliest published usage of the name “Ginny-Pigs” seems to be no older than 1664 (Donkin: 1989:113). The oldest archaeological evidence I know of comes from the former site of the King’s School, in Canterbury, where Beverley Meddens has identified the bones of a guinea pig, presumably kept as a pet rather than for food, in strata dated somewhere between 1543 and 1750 (Meddens n.d).

### Summary: European adoption of American foodstuffs

These case studies do not exhaust the available information, but all the sources agree in suggesting that the discovery of the New World made no immediate impact on the diet of Europeans.

Many of the plants were initially grown as botanical curiosities, gastronomic novelties, medicines, or as pure ornamentals (Sauer 1976:821), and they were cultivated by gardeners rather than by farmers. Even so, only two American plants, maize and squash, are mentioned in the Fuchs herbal of 1542, fifty years after the first Columbus voyage. By the end of the century, John Gerard in London had experimented with maize, tobacco, sweet potato, Andean potato, chili pepper, sunflower, Jerusalem artichoke, nasturtium, tomato, sarsaparilla, and several ornamental flowers including Marvell of Peru (*Mirabilis Jalapa*), "a pleasant plant to decke the gardens of the curious" (Woodward 1971:78). A beautiful coloured rendering of this plant (by Jacopo Ligozzi in the 1580s) is reproduced by Honour (1976: Plate IX).

In his *Gesta Grayorum* (1594) Francis Bacon lists the four requirements of a gentleman scholar as "a most perfect general library", a "still-house" (i.e. a fully equipped laboratory), "a goodly, huge cabinet" (for specimens), and "a spacious, wonderful garden, wherein whatsoever plant the sun of divers climate, or the earth out of divers moulds, either wild or by the culture of man brought forth, may be . . . set and cherished" (Impey and MacGregor 1985:1). The relationship between gardens and Cabinets of Curiosities was a close one in the sixteenth and seventeenth centuries (Schupbach 1985; Hunt 1985), and it provides one of the many interlinked themes of my essay. Both gardens and Cabinets served as repositories for rare and exotic items. Some of the great collectors, for example the Tradescants in Britain, were gardeners (and the younger Tradescant introduced several North American plants to England; Jarvis 1973:488–491). Faculties of medicine had their physic gardens; apothecaries and herbalists, too, maintained their own private gardens, and seeds of all kinds were tried out in monasteries. Chili peppers, for instance, were first grown in Spain as ornamental plants (Andrews 1984:4), and by 1613 several varieties are listed among the plants cultivated in the garden of the Bishop's residence in Eichstätt, Bavaria (P. Hanelt and B. Pickersgill, personal communication). Jerusalem artichokes, too, are first recorded in the garden of Cardinal Farnese in Rome (Woodward 1971:172).

Introduced plants rarely became staple foods in Europe before the seventeenth century, though the process may have been quicker in India and China. In Europe the new crops needed time to become gastronomically and culturally respectable; they also needed time to adapt genetically to new environmental conditions (see Hawkes 1967:290 and 1992:7 on the

potato), and to establish a place within the European agricultural systems in competition with existing crops (McNeill 1991). Some of the exotics, e.g. the tomato, met serious resistance and were believed to be dangerous or even poisonous.

A few of the introduced plants kept their Amerindian names (e.g. chocolate and tomato, from the Nahuatl *chocolatl* and *tomatatl*). Others still retain memories of their New World origins; in France the name *topinambour*, for the Jerusalem artichoke, seems to have become attached to this (North American) tuber some time after 1613, when Brazilian Tupinamba Indians were displayed in Europe (Heiser in Simmonds 1976:38).

Once the period of acclimatization was over the American origin of many foodstuffs was forgotten. Not all the introductions were directly from the Americas into Europe, and products were often named from intermediate stopping points (real or imagined) along the routes. We still talk, quite incorrectly, of Turkeys, Muscovy Ducks, and Guinea Pigs (from the West African coast), but in sixteenth century Europe the confusion was far worse. "Turkeys" were attributed to India (Schorger 1966:464, 466) and the Muscovy duck was variously named after India, Guinea, Libya and Egypt (Donkin 1989:91). The first botanical illustration of a pumpkin, in Fuchs's herbal of 1542, is labelled "Türkisch Cucumer", and the slightly later herbal of Petrus Matthiolus (1560) calls it *Cucurbita indica* (Whitaker 1947:102). The prickly pear cactus, imported to Mediterranean lands, became *Ficus indica*, or Indian fig (Donkin 1977:40). Maize had an exceptionally wide range of names, most of them linking the plant with the Muslim world: "Turkish corn" (English), "blé de Turquie" or "blé sarazin" (French), "granturco" (Italian), "trigu moriscu" (Sardinian), "blat de moro" (Catalan) and "Moroccan wheat" in Portuguese (Brandes 1992). This haphazard nomenclature is a fair reflection of the state of general knowledge, professional as well as popular, in sixteenth century Europe. It has been suggested (Brandes 1992) that one indication of, or perhaps even reason for, the low prestige of American foodstuffs in Europe may have been the ethnic association with foreigners, heathens, and traditional enemies.

In the more recent stages of their histories, American foodstuffs and cash crops have become internationalized and are now world resources (Table 1). As plantation crops, many New World products, such as cocoa and rubber, have found a new lease of life in the Old World. In the reverse direction, Old World products (coffee, sugarcane, bananas, and also beef and wool) have become the mainstays of certain American economies. Origins are irrelevant in today's world, where the former U.S.S.R. is the main producer of potatoes, and China grows 80% of the world's sweet

potato crop, obtaining 37% of its national food intake from crops originating in the New World (McNeill 1991).

## The New World and the Intellectual Life of Europe

The second part of this review introduces a new theme, the effects of contact with America on the intellectual and artistic life of Europe.

As Greenblatt (1991:9) has pointed out, the nations of fifteenth and sixteenth century Europe shared a common set of attitudes; "their culture was characterized by an immense confidence in its own centrality, by a political ideology based on practices of power and submission, and by a willingness to use coercive violence on both strangers and fellow countrymen." In many significant respects this Europe was different from today's. In the first place, it was Christian. Both Catholics and Protestants, and the subdivisions within each of these groups, had their own world views, which produced distinctly sectarian images of America, but all were Christian in a fundamentalist, late medieval style, believing that the Bible was, quite literally, the word of God and that all human history must be fitted into the Biblical framework and chronology. Certain later church writers, notably St. Thomas Aquinas, carried almost as much authority as the Bible itself.

A second source of authority derived from the Classics. The intelligentsia of sixteenth century Europe read Latin, and often Greek as well. They were familiar with historians like Herodotus, with Strabo and the Classical geographers, and also with the political philosophers of ancient Greece and Rome. Alongside some quite hard-headed science there was still a half-belief in the freaks and monsters of the medieval encyclopedias—in communities of Amazons, dog-headed humans, men with a single foot or with only one eye, and headless beings with faces in their chests (Wilson, this volume, p. 42). These were the fillers which cartographers put into the unexplored corners of the world map, and Europeans saw a direct connection between these "freaks of nature" and the man-eating savages discovered in parts of the New World. The spurious works of Sir John Mandeville were taken seriously by explorers as diverse as Columbus and Raleigh, and Mandeville's fantasies influenced expectations about what might be found in America for more than a hundred years after the conquest (Greenblatt 1991, Chap. 2; Milbrath 1989, 1991).

Above all, European scholars in 1492 were text-oriented. Questions were settled by appeal to accepted written authorities rather than by direct observation or experiment. The voyages of discovery and, especially, the discovery of the New World, posed a whole new set of problems—and

traditional text-based scholarship was unable to cope. Neither the Old Testament nor the Classical writers even mentioned the American Indians, and there was no consensus about their origins. Celts, Phoenicians, the people of Atlantis, the Ten Lost Tribes of Israel, Asiatics, and the grandsons of Noah were all in contention (and still are in certain quarters today), but no solution to that problem could emerge until modern science showed that mankind was created long before 4004 B.C. (Hodgen 1964:254–290; Bernal 1980:19–34).

In the New World, Europeans found plants and animals, peoples and customs, that would not fit into the Biblical and Classical scheme of things. Scholars therefore had to develop new observational and descriptive skills, and also a new intellectual framework for discussing natural and cultural phenomena for which no vocabulary existed. New ideas began to emerge in what we would now call taxonomy, biogeography and comparative ethnography (Butzer 1992) and, in a world where knowledge was not as compartmentalized as in our own, the effects of the Discovery carried over into political and moral philosophy as well.

### **Collectors and scientists in sixteenth and early seventeenth century Europe**

As part of the process of describing and evaluating America, all sorts of information flowed back to Europe, initially in the form of reports from conquistadors, explorers, merchants and administrators. But European terminology proved inadequate to give a true impression of the New World to people who had never been there; what scholars based in Europe needed was pictures or, even better, specimens, of what the Americas had to offer. So, back to Europe came paintings and drawings, samples of plants, animals, minerals, native artifacts, and with them a considerable number of Indians.

By 1530, more than a thousand Indians (probably very many more) had been exhibited in Spain, Portugal, France, the Low Countries, and even in England, where three Beothuks from Newfoundland were resident at the court of Henry VII in the year 1502. Some of these Indians were slaves; others were conversation pieces or living ethnographic curiosities, and they came from all over the newly discovered continent. The records mention Tainos from the Caribbean islands, Tupinambas from Brazil, civilized Totonacs and Aztecs from Mexico, and men from Newfoundland, where the English and Bretons had established their cod fisheries almost as early as the Columbus voyages further south.

Several early accounts allow us to gauge European reactions to all these imported artifacts and exotica (Keen 1971:63–70). I will quote just two of the contemporary comments out of the dozen or so on record. Both refer

to Mexican artifacts sent by Cortés to the court of Charles V in Europe. Peter Martyr describes some of these items, then gives his assessment:

I am at a loss to describe the aigrettes, the plumes and the feather fans. If ever artists of this kind have touched genius, then surely these natives are they. It is not so much the gold or the precious stones I admire, as the cleverness of the artist and the workmanship, which must exceed the value of the material and which excite my amazement . . . In my opinion, I have never seen anything which for beauty could more delight the human eye (Keen 1971:64).

The painter Albrecht Dürer visited the same exhibition in the Townhall of Brussels in 1520, and wrote the following words in his diary:

I saw the things which have been brought to the king from the new land of gold, a sun all of gold a fathom broad, and a moon of silver of the same size, also two rooms full of the armour of the people there, and all manner of wondrous weapons of theirs, harness and darts, very strange clothing, beds, and all kinds of wondrous objects of human use . . . All the days of my life I have seen nothing that so rejoiced my heart as these things, for I have seen among them wonderful works of art, and I marvelled at the subtle intellects of men in foreign parts (Keen 1971:69).

These skills did not die with the Spanish conquest. Instead, Indian artisans adopted European technology when it suited them, and immediately began to produce items (ranging from saddles to musical instruments) for hispanic, or hispanicized, customers (Berdan, this volume). Motolinía, who was greatly concerned with Indian education, noted that “in the mechanical arts the Indians have made great progress, both in those which they cultivated previously and in those which they learned from the Spaniards”. The natives copied, and even stole, new techniques from Spanish craftsmen, and in some arts (notably the working of gold and silver) were recognized as superior to Europeans (Steck 1951:299). Artifacts in this hybrid “indo-hispanic” style soon began to appear in Europe as well as in the New World. There was, for instance, a short-lived vogue for Mexican featherwork, in which the indigenous technique of feather mosaic was applied to objects for European use, including a remarkable group of religious pictures and ecclesiastical vestments decorated with themes of Christian iconography (Heikamp and Anders 1972).

What became of all these “wondrous objects of human use” once they arrived in Europe? It is clear that what European observers really admired was the *technical skill* of American artisans, and, of course, the value of the gold and silver. In spite of the protestations of people like Dürer and Martyr, in the minds of most sixteenth century Europeans the paintings, carvings and featherwork of native America were not “art”. It is easy to

see why. The style of drawing and painting, with no perspective or chiaroscuro, could not be adapted to European taste. The subject matter, whether it was Taino *zemis* or Aztec sculptures, was tied to pagan and blasphemous religions, and the conventions made no sense to Christian Europe. Many items that were important in the New World (stone axes, wooden clubs, masks, feather crowns, etc.) had no possible role in European culture.

What happened in practice is that the artifacts of the American Indians, rejected as art, moved into the Cabinets of Curiosities, or *Wunderkammern*, of Renaissance Europe, alongside natural history specimens, and curiosities like mermaids, two-headed calves, or petrified cheese. Feest (1985) gives an inventory of the few American objects that have survived to the present. Some of the Cabinets were serious research collections, the museums of their day, and their remnants still exist in various European cities (Impey and MacGregor 1985).

My personal favourite among the sixteenth century collectors is Ulisse Aldrovandi (1522–1605), professor of “fossils, plants and animals” in the University of Bologna, and a naturalist-taxonomist of international repute. His career, and that of his friend and collaborator in Bologna, Antonio Giganti (1535–97), have been examined in detail by Laurencich-Minelli (1983, 1984, 1992). Aldrovandi’s library of several thousand books included most of the available texts on the American discoveries, and his marginal notes and underlinings show that the books were well-used. In about 1549 Aldrovandi began to create his Cabinet. Besides natural history specimens, the collection incorporated weapons from Brazil, stone knives and mosaic items from Mexico (Figure 5), and a colonial feather picture of St. Jerome. For items he could not personally lay hands on he commissioned pictures, and his museum eventually contained sixteen volumes of coloured illustrations of plants and animals. These folios included depictions of maize, pineapples and many fruits, a turkey, Muscovy ducks (under the names “Indian”, “Libyan” and “Cairo” duck), and also illustrations of New World peoples: an Indian queen from Florida and a fine Brazilian Tupinamba wearing a red feather headdress (Figure 6). His collection of plant specimens (the oldest extant herbarium in the world) included a sheet with the leaf and inflorescence of a tomato labelled “*Malus insana, Poma amoris*” (McCue 1952:293). All of this was the collection of a working scientist, and Aldrovandi himself proposed an expedition to America in 1567, though this plan was never carried out. Many of his specimens are still on display in Bologna.

Britain’s best-known equivalent is the collection of the Tradescants, father and son, now part of the Ashmolean Museum in Oxford, though this cabinet belongs more to the ragbag end of the spectrum (MacGregor



**Figure 5** Mexican stone knife with a carved and inlaid wooden handle, from the Aldrovandi collection. Woodcut published in U. Aldrovandi, *Musaeum metallicum* (Bologna 1648), 43 years after his death.

1983, 1985). John Tradescant the Elder (d. 1638) was for a time Keeper of His Majesty's Gardens, Vines and Silkworms at Oatlands Place, and his son, too, was a gardener. By the time the catalogue was published, in 1656, the collection included clubs, wampum items and "Powhatan's Mantle" from North America, wooden clubs and a hammock from Brazil or Guyana, together with natural history specimens, shells, "two feathers of the Phoenix tale", a "Dragon's egge", and a bracelet "made of the thighs of Indian flies". The text does, though, show familiarity with the works of Aldrovandi and later writers on Brazil.

Most of the "curiosities" that reached Europe were never put to any practical use. A rare exception (and one that well illustrates the intellectual climate of sixteenth century Europe) is the magical speculum of John Dee (1527–1608), "the Black Stone into which Dr. Dee used to call his Spirits" (Figure 7). This item, a Mexican obsidian mirror of prehispanic type, eventually reached the British Museum, and the history of its previous ownerships is fully discussed by Tait (1967).



**Figure 6** A Tupinamba Indian. From Ulissis Aldrovandi, *Ornithologiae, hoc est de avibus historiae libri XII* (Bologna 1599). American Museum of Natural History Library. Based on a painting in Aldrovandi's Cabinet.

John Dee was one of the most learned men in Elizabethan England. His library of 2,500 printed books was many times larger than those of the universities, and Dee himself had contacts with scholars all over Europe. He was a mathematician, geographer, cartographer, philosopher and experimental scientist, a respectable antiquarian, but also astrologer, alchemist, magus, and (many people believed) a sorcerer. The "magic mirror" was used in his seances to communicate with angels and spirits.

In the Europe of the sixteenth century, science and magic were still not completely separated, and Dee's opinion was sought on all sorts of thoroughly practical matters. One of his official commissions was to advise English mariners seeking northern sea routes to Cathay, including the attempts by Martin Frobisher, in 1576-8, to find a North West Passage to the orient (French 1972:178). From the first of these voyages Frobisher brought back an Eskimo (Figure 8). Dee also presented Elizabeth I with a map of America, on the back of which he outlined the Queen's title to



**Figure 7** Mexican obsidian mirror used by Dr. John Dee to communicate with spirits and angels. The tooled and gilt leather case is European. The label pasted onto the leather dates from the time when the item was in the collection of Horace Walpole. The inscription, in Walpole's hand, identifies the mirror as "The Black Stone into which Dr Dee used to call his Spirits", and adds that "Kelly" [Dee's medium] "did all his Feats upon the Devil's Looking-Glass, a Stone." (British Museum Department of Medieval and Later Antiquities, no. 1966, 10–11, 1). Photograph courtesy of the British Museum.

*PICTVRA VEL DELINEATIO HOMINVM NVPER EX ANGLIA AD-  
uelforum, una cum eorum armis, tentorijs, & nauiculis.*



**Figure 8** Woodcut illustration of an Eskimo brought to England from Baffin Island by Martin Frobisher in 1557. The Eskimo demonstrated his skill with a kayak in Bristol harbour, but the artist has used his imagination to create an arctic background. From Dionyse Settle, *De Martini Forbisseri Angli Navigatione in Regiones Occidentis et Septentrionis narratio historica* . . . (1580). Library of Congress Rare Book Division.

“foreyn Regions”. The British claim to much of America relied on previous ownership, the expedition by “the lord Madoc, Sonne to Owen Gwynnedd Prynce of Northwales”, who had established a colony and “inhabited in Terra Florida, or thereabowts” (French 1972:197).

### **From artifacts to cultures: American savages and European intellectuals**

It was inevitable that European scholars studying the taxonomy of artifacts would also move towards the classification of the cultures that produced these objects, but in the sixteenth century it was impossible to classify customs and societies without also making moral judgements about them.

When the newly discovered Americans were judged against European standards all sorts of new problems arose, and the Americans were inevitably found wanting. Even the civilized Mexicans were idolatrous,

given to human sacrifice and, on occasion, cannibalism. The savages and barbarians of the Caribbean and Brazil were even worse. The debates about what to make of these peoples and, in particular, about how they should be treated, put the American Indians right at the centre of European intellectual consciousness, and for the Indians themselves the outcome of these discussions could make the difference between life and death.

The European dilemma can be illustrated by a German woodcut of 1505 depicting Brazilian Indians (Figure 9). The caption is a paraphrase of Vespucci's (largely spurious) account of his expedition of 1501–2 (Milbrath 1989, 1991) and it reads in part:

They go about naked, both men and women. They have no personal property, but all things are in common. They all live together without a king and without government, and everyone is his own master. They take for wives whoever they first meet, and in all this they have no rule . . . And they eat one another . . . They live to be 150 years old and are seldom sick.

It is not difficult to imagine the impact of these people on a Europe that was Christian, unashamedly capitalist, and that took the existence of class distinctions for granted. Here were people who had violated five of the



**Figure 9** "The People of the Islands Recently Discovered . . ."; German woodcut, ca. 1505, illustrating Brazilian Tupinamba Indians dressed in feathers and eating human flesh. The caption, based on the descriptions in Vespucci's letters, notes that the Indians "eat each other, even those who are slain. They hang the flesh of them in smoke." (Bayerische Staatbibliothek, Munich; photo courtesy of S. Milbrath).

main taboos of sixteenth century Europe (White 1976: 125). They were naked, sexually promiscuous, not bound by the rule of law, had no private property, and they were cannibals. In European terms these Indians broke every tenet of "natural law" and, moreover they had got away with it. Instead of living in sinful misery, they enjoyed long, healthy and happy lives.

It is interesting to see how this kind of information about the New World was used to support all the conflicting political viewpoints current in Europe. The "hardliners", of the political right, claimed that all Indian religions were, quite literally, the work of the Devil, that Indian customs were unnatural, that the Americans were barbarian and beastly, and were "natural slaves" within the Aristotelian definition, i.e. people who were incapable of governing themselves and were therefore fair game for missionaries and colonizers. The Spanish conquest was not merely expedient; it was also morally just (Pagden 1986). This was the view of Juan Ginés de Sepúlveda, chaplain and official chronicler to the Holy Roman Emperor:

[The Indians] in prudence, wisdom, every virtue and humanity are as inferior to the Spaniards as children are to adults, women are to men, the savage and ferocious to the gentle, the grossly intemperate to the continent and temperate, and, finally, I shall say, almost as monkeys are to men . . . With the passage of time, when they have become more human and when our rule has confirmed them in good customs and the Christian religion, they may be treated with greater freedom and liberty (cited in Pagden 1986:117).

On the basis of exactly the same field evidence, the "softliners" compared the Aztecs with the Classical civilizations, or with the Celts and Iberians (all of whom were non-Christian and were sometimes nasty in their habits). To their European supporters the Indians had all the civic virtues that made them civilized and teachable; their faults were those of upbringing, of ignorance rather than lack of reason or want of intelligence. They were not therefore "natural slaves" as Aristotle defined the term, though they needed the Christian message explaining to them.

This "soft" view was marvellously expressed in 1511, less than twenty years after the first Columbus voyage, by Peter Martyr in his book *De novo orbe*. I quote him from the first English translation, by John Florio (Hodgen 1964:371):

[The Indians had] no delyte in such superfluties, for the whiche in other places men take infinite paynes, and commit manye unlawfull actes . . . Among these symple soules, a fewe clothes serve the naked: weightes and measures are not needeful to suche . . . as have not the use of pestiferous money . . . so that . . . they seeme to live in that golden worlde of whiche the olde wryters speake so muche, wherein men lyved symple and

innocently without enforcement of lawes, without quarrelyng, judges and libelles . . . they seem to lyve in the golden worlde without toyle, lyvinge in open gardens, not intrrenched with dyches, divided with hedges, or defended with walles.

Peter Martyr's treatise (together with the letters of Columbus and Vespucci) was a major influence on Sir Thomas More, whose *Utopia*, originally written in Latin, was published in Louvain during December 1516 (More 1965; Porter 1979:3-90). More's protagonist had sailed with Vespucci, and the island kingdom of Utopia was set in an unexplored part of the New World. Its inhabitants were certainly not savages, for they had clothing, cities, slavery, an imperial government and a legal system, but, like Martyr's Brazilians, they set no store by wealth, were not greedy, and held all household property in common. Although the book was presented as fiction, it was also intended as a serious contribution to the sixteenth century debate on political philosophy—so much so that Vasco de Quiroga, Bishop of Michoacán from 1537, explicitly followed More's precepts and organized his Indian communities on a Utopian basis, with common ownership of property and a six-hour working day (Porter 1979:47).

Each political viewpoint generated its own visual imagery. In her study of European representations of Aztec deities, Boone (1989) identifies two artistic traditions, each of which corresponds with one of the schools of moral philosophy. Artists who shared Sepúlveda's view that the Indians were barbarians, guilty of the blackest crimes against God and Nature, produced illustrations derived from European demonology; the Aztec gods are depicted as Americanized versions of the Biblical devil, with horns, wings, tails and cloven hooves. Softliners, those who compared the Indians with the noble pagans of the Classical past, made the connection explicit through pseudo-classical images in which, for example, the Aztec Huitzilopochtli looks like a feathered version of Roman Mars.

As exploration continued, it became clear that there were many different Americas. In the preface to his book *De procuranda indorum salute* (1576) the Jesuit Father José de Acosta, who had worked in South America, stated unambiguously:

The natives of America are very varied and diverse, and very different from one another as much in climate, environment and dress as in intelligence and customs . . . It is a vulgar error to assume that the Indians . . . because they are all called by the same name, have only a single nature and mind.

Acosta, one of the first scientific geographers (Butzer 1992:557) as well as an early exponent of comparative ethnography (Alcina n.d.; Hodgen 1964:313), also produced a classification of societies. He divided them into

*civilized communities* (like the Muslims and Chinese), *chiefdoms* (of the kind encountered by Columbus in the Caribbean), and *savages* similar to those described by Vespucci. In essence, Acosta's scheme hardly differs from the one presented as a breakthrough in anthropology during the 1960s and '70s (Service 1962, 1975).

At roughly the same time as Acosta was writing, the first scientific questionnaires were coming into use. One of these, published by Albrecht Meier in Germany in 1587, was translated into English two years later under the title *Certain briefe, and speciall instructions for gentlemen, merchants, students, souldiers, marriners etc.* The questions covered government and commerce, crime and punishment, costume, diet, religious practices and "the manners, rites, and ceremonies of Espousals, marriages, feastes and bankets" (Hodgen 1964:187). From Meier and his contemporaries there is a direct line of descent to the *Notes and Queries* guidebook published by the Royal Anthropological Institute for colonial officials and travellers visiting foreign parts.

The emergence of comparative ethnography is just one aspect of a late sixteenth century phenomenon, the transition from a medieval world view to a recognizably modern one. Michel de Montaigne is a good example of the new generation; his essays were written in the 1570s (and are therefore contemporary with Acosta's books), and they bring together many of the themes we have been considering. Montaigne was an aristocrat and a humanist, not an ecclesiastical commentator. He had read all the French and German literature on Brazil, and he obtained first hand information from travellers who had lived there. He also collected ethnographica; in his house were hammocks, weapons, bracelets, and even dance sticks. He talked to the Brazilian Indians who visited Rouen in 1562 (as did Rabelais), tasted manioc bread, and even wrote down the words of a Brazilian love song (Montaigne 1958:105-119). He was, therefore, very well informed.

The Feathered Savages of the 1505 woodcut are still in evidence. In his essay *On Cannibals* Montaigne gives a fine ethnographic description of the life of the Brazilians, and uses this information as the basis for an attack on the evils of European society. His comments are similar to those of Peter Martyr sixty years earlier, but Montaigne gives them a more overtly political slant. Unlike Martyr, his main concern is not the fate of the Indians; Montaigne is making a moral statement to the Europe of his day. In this essay, lack of government among the Tupinamba becomes freedom from oppression; bloodthirstiness indicates courage in battle, and Tupinamba treatment of prisoners is no worse than the atrocities of the Portuguese. Having no private property, the Brazilians are content with what nature affords, and they are no more promiscuous than Jacob and

the Biblical patriarchs. In his essay *On vehicles*, and again in his discussion of Cannibals, Montaigne presents an image of America that comes straight from Peter Martyr and Bartolomé de Las Casas. It is a new world, as large and populous as the old, but innocent, and even "infantile". Before the Conquest "it knew neither letters, nor weights and measures, nor clothes, nor corn, nor vines" (Montaigne 1958:276). There was also "no title of magistrate or of political superior, no habit of service, riches or poverty, no contracts, no inheritance, no divisions of property, only leisurely occupations, no respect for any kinship but the common ties . . . The very words denoting lying, deceit, greed, envy, slander and forgiveness have never been heard" (1958:110).

Montaigne's Brazil is a mirror image of Sepúlveda's America. All the things that were barbarous and even non-human to the "hardliners" have become virtues for Montaigne, and a belief in cultural relativism has replaced the rigidity of a universal "natural law" (1958:120). With Montaigne's version of primitive communism, we are already well along the road leading to Rousseau's Noble Savage, living in an innocent, and very Green, Garden of Eden. Translated into the jargon of today, much of the debate in the sixteenth century was about the politically correct interpretation of field data, and about ethnocentrism, the way in which one culture regards another. The discovery that there is no such thing as objectivity, and that each age gets the ethnography it wants, is not as new as some of today's anthropologists would have us think.

### **The Americas in European Art**

Although the discovery of America had an important influence on the natural and political sciences, it did nothing to change the aesthetic canons of European art. The voyages of discovery did, however, provide a new range of subjects for European artists: flora and fauna, landscapes (though this was a relatively late development) and, above all, the Indians themselves.

Columbus, Vespucci and the first generation of voyagers took no artists with them. When their letters and reports began to appear in Europe the engravers who provided the illustrations were forced to improvise, and they drew upon a mixture of sources. Some details were reconstructed (with varying degrees of accuracy) from the written texts themselves, but other conventions were borrowed from existing European themes—the forest-dwelling Wild Man, the Garden of Eden (both Columbus and Vespucci claimed to have found the earthly paradise), or from the myth of a Golden Age described by Classical writers (Milbrath 1991). All these make explicit reference to an early stage of human development, primitive

and sometimes also innocent, and therefore in keeping with sixteenth century views about the place of the Savages within the scheme of things.

With increasing contact between Old and New Worlds two distinct, though partially overlapping, pictorial traditions emerged. Items in the first group were primarily works of record, scientific and accurate—if sometimes unskilled—and depicting the natural world of America more or less as it was. Many of these artists, like John White in North America (Hulton 1984) or Hans Staden in Brazil (Milbrath 1991), had first-hand knowledge of the New World. Staden's experience was unique. Captured by the Tupinamba, he was fattened to be eaten before eventually making his escape. His book, *Description of a Country of Wild, Naked, Cruel, Man-eating people in the New World* (1557), helped to perpetuate the interest in cannibals, but was also illustrated with woodcuts full of accurate ethnographic detail. Other artists worked from laboratory specimens, or depicted Indians they had seen in Europe. Inevitably, however, European stylistic conventions began to influence depictions of New World scenes. Field sketches were worked up by the original artists or by "improvers" like the De Bry family (see the illustrations to Newson, this volume); illustrators lacking appropriate American models transferred images from the Classical or Oriental worlds, or indiscriminately mixed the attributes of different Amerindian groups (Sturtevant 1976). From this confusion and misunderstanding emerged a second style of illustration that owes more to the European Fine Art tradition than to ethnography.

Classical figure drawing, with its interest in the nude human form, could be easily adapted to American themes. The figures were simply put into Amerindian costumes (or what passed for these), set in exotic landscapes, and then recycled into the early travel literature or into purely decorative compositions. Artists in this second group worked in European studios and had not seen America for themselves, and their standards of ethnographic accuracy varied from the fairly good to the purely fictional.

To illustrate the process of Europeanization—and degeneration—of the American image we can return to that familiar theme, the Feathered Savage, and see what was made of it in Europe. The story begins with Amerigo Vespucci's voyages along the coasts of Guyana and Brazil in 1499 and 1501–2 (Milbrath 1991). It was, of course, *his* name, and not Columbus's, that was given to the new continent, and the spurious account based on Vespucci's letters (titled *Mundus Novus* and published in 1502) not only established the term New World in the literature, but also became an international best seller. It went through 37 editions between 1503 and 1508, in Latin and in every major European language except English. Vespucci's reports (written before the discovery of the rich empires of Aztec Mexico and Inca Peru) completely outsold the works of Columbus,

and it was Vespucci who provided the conventional image of the continent for European readers (Quinn 1976).

What caught the public imagination was the description of the Tupinamba cannibals of coastal Brazil. Vespucci, with some embellishment from his publishers, offered titillating stories of Indian lasciviousness, strange sexual customs, and the habit of eating human flesh, but he also described exotic plants, animals and artifacts, all of this accompanied by woodcut illustrations (Honour 1976:8–12). It does not matter that this image was a wild exaggeration. It established The Savage as an exciting new theme in European art. Nudity and cannibalism sold books in the sixteenth century, just as they do today, and the image of the Feathered Savage came to define America in the minds of those who had never been there. Accuracy was neither attainable nor expected. The image that emerged was a stereotype designed for the European market. In Figure 9, for example, the crowns are based on authentic Tupinamba headdresses, while the feathered skirts of the Indians are pure invention (Sturtevant 1976; Milbrath 1991), but it is these kilts that figure over and over again in sixteenth century representations, as one artist copied another, until, very quickly, the image came to replace the reality.

One of the earliest and strangest representations of a Tupinamba in European art comes from a Portuguese painting of the Adoration of the Magi (Figure 10), attributed to Vasco Fernández and dated around 1505, only five years after the first landfall in Brazil (Honour 1976:53; Levenson 1991:153; Milbrath 1991). The painting formed part of an altarpiece for the Cathedral of Viseu. One of the magi (Melchior, conventionally portrayed as an African) has been replaced by a brown Tupinamba with a recognizable feather crown and a Brazilian arrow, but with his nakedness concealed by a European tunic and a pair of breeches. (The same idea occurs, though independently and much later, in a number of “Adoratorios” from highland Peru, in which one of the magi is represented—in an overt political statement—by an Inca king; see Zuidema 1991: Figs. 12b, 12c).

Ten years later, in 1515, Albrecht Dürer added a Brazilian Indian in a feathered kilt to the margin of a Book of Hours belonging to Maximilian I (Sturtevant 1976; Massing 1991). Apart from the kilt, many of the details of Tupinamba costume are correctly rendered, and Dürer may have worked from Brazilian models or artifacts. The drawing accompanies the text of Psalm 24: “The earth is the Lord’s and the fullness thereof; the world and they that dwell therein”, and the inclusion, in the opposite border, of a coat of arms with the Imperial double eagle, is a hint that God was expected to hand over some of His earthly responsibility to the House of Hapsburg.

By the middle of the century, Feathered Savages had begun to appear



**Figure 10** Altarpiece from the cathedral of Viseu, Portugal, ca. 1505. One of the Magi is represented as a Brazilian Indian with a feathered crown. Museu de Grão Vasco, Viseu.

(alongside other exotic peoples like Moors, Turks, Tartars and Persians) in frescoes, wall paintings and tapestries, and as live performers in festivals, ballets, tableaux and masques (Boorsch 1976). Brazilians are depicted, among the "people from Calicut" in the *Triumph of Maximilian*, an uncompleted set of paintings conceived by the Emperor himself in 1512 (Sturtevant 1976; Massing 1991), but the most spectacular of these performances must surely have been the fête arranged for Henry II and Catherine de' Medici to celebrate their entry into Rouen in 1550 (Sturtevant 1976; Boorsch 1976). A Brazilian village was constructed on the banks of the Seine, with thatched huts, hammocks, dugout canoes, and trees filled with monkeys and parrots (Figure 11). The finale was a mock battle between two groups of Indians, carrying their typical weapons. Of the 300 people who took part, 50 were genuine Brazilians brought to France by ships engaged in the logwood trade; the others were French soldiers and young women, painted and feathered. It is reported that the king's eye "was justly content" with the display.

Art and geography fuse together in sixteenth century allegorical representations of the world. The discovery of America added a new continent to the traditional medieval universe of Europe, Asia and Africa;



**Figure 11** Brazilian Fête, a display arranged for Henry II and Catherine de' Medici at Rouen in 1550.

the three continents became four, and in the 1570s America began to appear alongside her older sisters (Honour 1976:84–117; Milbrath 1989:203–208).

One of the earliest versions is on the title page of Abraham Ortelius's *Theatrum Orbis Terrarum* (Antwerp 1570) where America is shown as a recumbent woman with a bow and arrows and a feathered hat, holding a severed head in her hand. All the customary clichés—naked Amazons, feathers, cannibalism—are incorporated. As Honour also points out, “to create a single image, comparable with Europa on her bull, was more difficult. But several artists attempted it. Maarten de Vos conceived America as a handsome nude girl with a very elaborate coiffure riding on an outsize armadillo—sidesaddle of course” (Honour 1976:89). The same lady decorated a festival arch erected in Anvers in 1594. In an alternative version, fifty years later, the woman, with her feathered headdress, is shown reclining in a chariot pulled by two Mannerist armadillos (Honour 1976: Fig. 83). The clue to the armadillos is provided by George (1985:180) who analysed the contents of Cabinets of Curiosities and discovered that the armadillo is the most common non-European animal in seventeenth century collections. The exotic appearance of this creature seems to have fascinated travellers, and the armadillo is represented over and over again in prints, drawings and watercolours of the period. Blown up to the size of a rhinoceros, it looks both fearsome and foreign, a suitable heraldic beast for an exotic continent. Once in the European repertoire, the Lady with the Armadillo appeared all over the place in books and pictures, was reproduced on building facades, stove tiles and tankards, and remained in fashion for a hundred years or more (Figure 12). The chariot version of the theme was still extant as late as 1689, when it appears on a silver-gilt plate made in Augsburg (Honour 1976:89).

From this brief, and far from complete, survey we can identify two parallel phenomena—the *Europeanization* and the *trivialization* of the American image. What López de Gómara had called “the most important event since the creation of the world” turns out to be just a Fat Lady in Feathers.

## Conclusions

From the previous papers in this volume it will be clear that Europe gave to America (or imposed upon it) much more than it accepted in return. The reasons are obvious. In the New World, Europeans were physically present, controlled the sources of military and political power, and set cultural standards to which any upwardly mobile individual (Indian or



**Figure 12** Allegory of America, engraved by Cornelius Visscher (ca. 1619–1662). In the background Europeans wage war against the natives, while cannibals eat human flesh. From Milbrath 1992:206. This engraving is a mirror image of one by Francesco Valesio, 1560–1643.

mestizo) had to conform. The European way of life represented the culture of victory. In Europe the situation was different; relatively few people had direct experience of the New World, and there was no political or social pressure to adopt “foreign” habits. We can therefore use the European case to generate some broad ideas about the limitations on unforced borrowings between very dissimilar cultures.

The following general principles emerge from the present study, but are probably more widely applicable:

1 *Items that fill a vacant “cultural niche” are easily assimilated.* New medicines and drug plants fall into this category, as does the hammock. This is ideally designed for tropical conditions and does not compete with anything in the existing European repertory. In passing, we may note that Europeans found a new use for the hammock (as bedding on shipboard) that has no counterpart in Amerindian life.

2 *Items that duplicate the role or function of an established product are likely to meet resistance.* They will have to compete for a place in the

receiver-culture. Amerindian technology had, in any case, little to offer Europe, and the New World crops for a long time did badly in competition with the traditional ones of Europe.

3 *Items so exotic that they fall completely outside the frame of reference of the receiver-culture, or that conflict with entrenched beliefs and values, are likely to be rejected.* This principle helps to explain why native America has never produced a world religion, a universal philosophy, or an international art style. Dietary prejudice is also one cause of the slow adoption of American foodstuffs.

In practice, when the cultural gap is too great to be bridged, what often happens is that inessential or purely decorative traits are selectively adopted, though their "meaning" within the donor-culture is lost in transit. In a general way I am thinking of the European vogue for Chinoiserie and Japanese prints, or the "creative misunderstanding" that transmuted African sculpture into twentieth century Cubism—but also about the reaction of the Iron Age Celts to the Classical world, and about the way in which the theme of the American Feathered Savage was taken over in Europe.

Underlying the miscellaneous evidence presented in my essay is a single unifying argument—that sixteenth century Europe appropriated the Americas for its own ends, but made almost no attempt to understand the New World and its inhabitants *on their own terms*. This appropriation was in part economic (useful plants and other products were simply absorbed into the European way of life), but there was also intellectual appropriation, with European philosophers using American data as ammunition in their own disputes about the nature of society. Little of what happened in Europe was relevant to the Americans themselves and, as Kubler (1991) has pointed out, it was not until the mid-nineteenth century that Amerindian art and culture began to be taken seriously and to be appreciated for their own sakes.

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