Salerno is a town in southern Italy that remained under Byzantine control until the Normans began to take over, wresting Sicily from the Muslims and Salerno itself from the Byzantines. The Norman duke Robert of Guiscard took possession of Salerno in 1076. It is there that was established the principal university of Christendom from this time up to the foundation of the University of Naples in 1224. The Jew Benjamin of Tudela who is said to have visited it in 1164, alluded to it as the principal university of Christendom [1].

The principal reason for linking Salerno and Islamic science is the fact that Salerno came to such prominence as the first faculty-University of the Christian West as soon as it received the visit of a scholar known under his European name Constantine the African, a Tunisian in origin (Tunisia being called at that time Ifriqiya, from which was derived the name Africa that designated the whole continent). Islamic medicine really began to make its influence felt at Salerno in the middle of the 11th century [2], precisely following this arrival of Constantine.

Constantine (the African)

Constantine (the African), a Muslim from Tunisia, had studied medicine in the Muslim schools of Africa and Baghdad, brought with him an 'exciting' cargo of Islamic medical lore [3], of which the subsequent translation contributed to the resurrection of science in Italy; and making the school of Salerno the head of medical knowledge in the Christian West. His rich cargo of books came initially from his native Tunisia, and legend has it that he fell into the sea and lost part of his treasure, but with what he salvaged, he translated into Latin [4].

Perhaps as early as 1065, Constantine had come to Salerno from North Africa and, at the encouragement of Archbishop Alfanus, had begun to translate medical works into Latin from Arabic [5]. Alfano, archbishop of Salerno, who himself had medical knowledge, encouraged Constantine to make translations from Arabic of several popular medical texts [6]. One such translation was an adaptation for a Latin audience of the Kitab Kamil as-sin'a at-tibbiya (the complete (or perfect) book on medical art) of 'Ali ibn a-Abbas al-Majusti (written before 977/978), called the Pantegni [7]. Constantine translated several other works on diets, the stomach, melancholy, forgetfulness by doctors in Qayrawan, the Zirid capital, from where he himself originated [8]. These had Latin translations such as Chirurgia, Prognostica, De pulsibus, De instrumentis, Practica (in 12 books), Liber graduum, De Stomachi et instestinorum infirmitatibus, Liber de urina, and a number of others [9]. During the next twenty years Constantine continued to translate from the Arabic while teaching medicine to a generation of disciples.

Perhaps more important in the long run for European medicine were the translations Constantine made of Arabic authors treatises on diet, fever, and urines by Isaac Israeli and the Pantegni of Haly Abbas (‘Ali ibn al-‘Abbas) [10]. It was not long before these translations became the basis for a new sort of medical education at Salerno that foreshadowed the scholastic forms of the later Middle Ages.

Constantine's translations were reinforced a century or so after by a new influx of medical
works, also translated from Arabic but this time in Spain, Toledo, primarily, most of them the work of the prolific Italian translator Gerard of Cremona (ca. 1114-1187). The list of translations from the Arabic attributed to him by his disciples includes no fewer than two dozen works on medicine [11]. Some works were by Greek authors, but the majority were by outstanding figures in Islamic medicine: seven works by Rhazes (al-Razi), including both his great medical compilations, the Liber al-mansoris and the Continens, the Canon of Avicenna (Ibn Sina); the Breviarium of Serapion (Ibn Sarabiyun); and the Chirurgica of Albucasis (Abu al-Qasim al-Zahrawi) [12]. The importance of these new materials for Western medicine, Mac Vaugh notes, is not easy to overestimate. The remarkable medical encyclopedias of the Arabs, in particular the Canon, confirmed Western physicians in their belief that medicine should be studied as a rational system with close ties to philosophy, grounded in logical order and susceptible of methodical investigation [13].

The impact of Salerno on the rise of modern science can be grasped from the following. First, it gave a very definite idea on the progress that can be had from the translation of Muslim science and works in Arabic. From Constantine alone, the Christian West was able to acquire such vast amount of learning as to lead to the formation of the first faculty/University of Western Christendom. By his death (c.1087), the school of Salerno stood at the head of medical knowledge in the Christian West [14]. Not just that, as Campbell recognizes, Constantine became, in fact, "one of the most important figures in the history of mental development of Europe in the Middle Ages" [15]. The trends apparent in 12th-century Salerno became characteristic of European medicine generally in the 13th century, under the influence of a second group of medical works translated into Latin [16].

The second most important impact is that the vast amount of knowledge he had carried from Al-Qayrawan north to Europe brought about, "a generation of prominent medical teachers" [17]. It made Salerno School the centre of its medical teaching [18], out of which was built the whole basis of higher learning in the Christian West as many subsequent faculties and universities were mostly offshoots of Salerno, especially northern Italian universities such as Padua and others.

From the knowledge acquired from Constantine, especially his translation of the so called Isagoge by Joanitus, we have some considerable new approaches to medicine. Western literature keeps telling us this, but in its overwhelming majority fails to note that Johanitius is Hunayn Ibn Ishaq, and his work Isagoge, is the Massa’il fi’l tib (medical questions). These new approaches are summed up here by the erudite Mc Vaugh:

"Every body, indeed every member of the body, has its own normal balance or proper temperament of qualities and humors, and illness arises when imbalance is so great as to distort function. The six non naturals, of which we learn next, are the causes external to the body that we or the physician can manipulate to preserve or sometimes to restore health: air, food and drink, excretion, exercise, sleep, and the emotions. Finally we learn of pathology: of disease, its causes and consequences (etiology and semiotics) the rescontra naturam. Diseases are classified sometimes by the part of the body they affect, sometimes by the symptoms they manifest, and sometimes by their supposed cause. Only a very small portion of the Isagoge summarizes medical practice for the beginning student: 'The practice of medicine
deals with the right ordering of the non naturals, with giving of drugs, and with surgery’ to be
essayed in that order, no doubt, by the consulting physician; of these, the administration of
drugs, mostly botanical, seems to have dominated medical practice.”[19]

Some breakthroughs also came from Salerno and concerned some particular aspects of
medicine. And here must be stressed the impact of the Kitab Kamil as-sin’a at-tibbiya (the
complete (or perfect) book on medical art) of Ali ibn a-Abbas al-Majusti (written before 977/978),
and called in latin the Pantegni [20]. It consisted of ten books of theory of medicine and an
equal number on practical medicine, and aside from being the most comprehensive book on
medicine of its time, it was also important for dealing with elementary physics [21]. Mac Vaugh
stresses the change in medical knowledge in the Salernitans' work in anatomy, a field in
which they recreated as the Latin had inherited virtually no anatomical literature from the
classical past, a situation changed only by Constantine's translation of the Pantegni with its
anatomical chapters [22].

The translation of Muslim medical treatises introduced the West to fields in which Islamic
physicians had made considerable advances such as surgery, materia medica, and theoretical
pharmacy [23]. If surgery is taken as an example, it is the branch of 13th-century medicine that
has received most praise for its empirical and "progressive" quality [24]. The first medieval
compilation on the subject was the so-called Bamberg Surgery of the early 12th century,
brought together at Salerno. It depended to large parts on the Pantegni already cited. But now,
with the translations by Gerard of Cremona, beginning to infiltrate the West, we see the impact
on the famed Italian surgeons: Bruno Longoburgo, Hugh of Lucca and his son Theodoric, and
William of Saliceto, all of Bologna, and Lanfranc of Milan. In this development of surgery, we
see the penetration of the next phase of Muslim teachings in the field, from the works of the
masters: Ibn Sina and Al-Zahrawi who had been translated by Gerard [25].

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End Notes
