

nourished his immortal "Reveries." I picture to myself the wild, yet tranquil, and half-developed images that flitted athwart the mind of Goethe, as he paused for long minutes by some flower, yet wet with the early dews. The beings of the mind are more chastened and spiritualised while fresh from the bath of dreams, and ere the low cares and petty troubles of the day begin. But we are in the garden—return we home. The lattice, reaching to the grass, is open—your light repast prepared—your favourite book beside you—your dog at your feet—the projects of the day lie like a map before you. Everything, in a country life, is calm and certain; and if you are worthy of that life, your own thoughts can preserve you from monotony.—*New Monthly Magazine.*

DESCRIPTION OF THE MANNER IN WHICH THE PLANETS MOVE ROUND THE SUN.—If there be a wide shallow round basin of smooth marble, and if we take a smooth ball, as a billiard ball or a marble pellet, and throw it along the surface of the inside of the basin, the ball will generally make many revolutions round the inside of the bowl, gradually tending to the bottom in its motion. The gradual diminution of the motion, and consequent tendency of the ball to the bottom of the bowl, arises from the friction; and in order to make the motion correspond to that which takes place through the action of a central force, we must suppose this friction to be got rid of. In that case, the ball, once set a going, would run round the basin for ever, describing either a circle, or various kinds of ovals, according to the way in which it was originally thrown; whether quickly or slowly, and whether more or less obliquely along the surface. Such a motion would be capable of the same kind of variety, and the same sort of adjustments, as the motion of a body revolving about a larger one by means of a central force. Perhaps the reader may understand what kind of adjustments these are by supposing such a bowl and ball to be used for a game of skill. If the object of the players be to throw the pellet along the surface of the basin, so that after describing its curved path it shall pass through a small hole in a barrier at some distance from the starting point, it will be easily understood that some nicety in the regulation of the force and direction with which the ball is thrown will be necessary for success. In order to obtain a better image of the solar system, we must suppose the basin to be very large and the pellet very small. And it will easily be understood that as many pellets as there are planets might run round the bowl at the same time with different velocities. Such a contrivance might form a *planetarium* in which the mimic planets would be regulated by the laws of motion as the real planets are; instead of being carried by wires and wheels, as is done in such machines of the common construction; and in this planetarium the tendency of the planets to the sun is replaced by the tendency of the representative pellets to run down the slope of the bowl.—*Whewell's Bridgewater Treatise.*

INCREASE IN THE TERRITORY AND POPULATION OF RUSSIA.—In the 13th century, the irruptions of the Mongolians, who pe-

trated westward as far as Novogorod, reduced the Tzars and their subjects under their sway and kept them in bondage for nearly three hundred years; until their great deliverer, Ioan Vasillivitch, roused the energies of the natives to cast off the Tartar yoke, and led the Russians on to subdue their powerful oppressors. Since their emancipation from the yoke of the successors of Jingsis Khan, in the middle of the 15th century, the Russians have extended their dominions by conquest, in an almost unprecedented manner, until their empire now far surpasses in extent that of Rome in the meridian of her power. This extraordinary accession of territory and population has advanced, in steady progression, from the period above mentioned to the present day nor is it possible to affix any probable limits to its further advances, especially towards the south-east and south. Let us, however, glance at the growth of this mighty colossus of modern times, which already throws into the scale of European affairs such a preponderating influence, and which probably is destined to act a still more prominent part among the nations. In 1462, when Ioan Vasillivitch ascended the throne of the Tzars of Muscovy, the whole extent of his dominions was estimated at about 18,200 square miles; but when Ioan Vasillivitch Grosnoi came to the throne in 1533, it was already more than doubled; and at his death, in 1584, it compassed 144,000 square miles. When the present dynasty of Romanoff was elected by the assembled Boiars and Clergy, in 1613, and Michael Feodorovitch was raised to the throne, his dominions were nearly the same in extent as at the death of Ioan Vasillivitch; but in 1645 when he left them to his son Alexie, they were enlarged to 258,000 square miles. Peter the Great extended considerably the limits of the empire; and at the accession of his daughter Elizabeth, in 1741, they included 325,000 square miles. Catherine the second also added to the empire; and at the death of Alexander, its surface was calculated to contain an area of 340,000 German square miles: so that in the course of 364 years, Russia has increased, in extent of territory, near twenty-fold! Nor is the increase of population in the last 100 years less remarkable, though more thinly scattered over its immense extent than in the thinnest inhabited parts of Europe. The first census taken by order of Peter the Great, in 1772, gave the number of males paying taxes at 5,794,928; and if we give an equal proportion of females, the whole of his subjects, exclusive of the clergy, nobility, and army, amounted to 11,589,856 souls. But in the sixth revision, made in 1812, this population was found to have augmented to 37,700,000 souls, though the accessions by conquest were estimated at only fifteen millions: and in the present day, according to the last statistical accounts the population of the Russian Empire is estimated at upwards of fifty-four millions; of whom about thirty-six millions are native Russians, speaking the same language, and belonging to the national or Oriental Church. The Poles and Lithuanians belonging to the empire amount to eight millions and are mostly Roman Catholics. The Finns, Livonians, Esthonians,

and Germans are Protestants, and are estimated at three millions. Jews two millions. The Caucasian, Crimean, Kazan, Astrachan, Bashkeer, Kirgizian, and Siberian Tartars are all Mohammedans, and probably do not amount to more than two millions. The Mongolian, Kalmuk, Manjur, and other heathen tribes of Siberia, whose numbers do not exceed one million, belong to the Buddhist, and Shaman systems of idolatry. The Georgian nation, with the recently-conquered provinces of Persia, and the Armenians, amount to about one million and a half. In the above estimate of the Russians the privileged orders are included; viz.

1. The nobility (makes only)	225,000
2. The Clergy	243,500
3. Officers and servants in the civil department	750,000
The emancipated peasantry (males only)	550,000
Free-born Russian peasantry (males only)	67,000

From these estimates it is manifest, that, within the last century, the population of Russia, irrespective of its accessions by conquest, notwithstanding the bloody wars in which it has been almost constantly engaged has more than doubled itself by natural causes. Nor can we be surprised at this rapid increase of the human race if in addition to the extraordinary longevity so common among the people, we attend to the statements given in the registers which are kept by the bishops, and annually transmitted to the Syned and published. From these, the extraordinary results are drawn; that the proportion of males to females is as 44 to 40; of annual births, 1 in 25; of deaths, 2 in 40; of marriages 1 in 100; and that the proportion of births to deaths is as 16 to 1!—*Pinkerton's Russia.*

MARKETING OF YOUNG WOMEN.—Mr Bulwer considers the society and manners of the English, one of the most characteristic features of which is the universal marketing of young women. In this respect we are only rivalled by the body of eastern slave dealers. We are, in short, a match-making nation, and the custom of open match-making to which we have been brought at last is productive of many lamentable consequences, which are now for the first time noticed. For example, the practice alluded to encourages, according to Mr Bulwer, the spirit of insincerity among all women,—“Mothers and Daughters,”—a spirit that consists in perpetual scheming, and perpetual hypocrisy; it lowers the chivalric estimate of women, and damps with eternal suspicion the youthful tendency to lofty and honest love. In the next place, it assists to render the tone of society dull, low, and unintellectual; it is not talent, it is not virtue, it is not even the grace and fascination of manner that are sought by the fair dispensers of social reputation; no, it is the title and the rent-roll. You do not lavish your invitations on the most agreeable member of a family, but on the richest. The elder son is the great attraction. Nay, the more agreeable the man be, if poor and unmarried, the more dangerous he is considered; you may admit him to acquaintanceship, but you jealously bar him from intimacy. Thus society is crowded with the insipid, and beset with the insincere. The women that give the tone to society take the tone from their favourites. The rich young man is to be flattered in or-