

start: 0.0 end: 9.0 The following is a selection from the book Cosmos, a sketch of the physical description of the universe, by Alexander von Humboldt.

start: 9.0 end: 15.0 Presented by listentogenius.com, narrated by Barrett Weitner.

start: 15.0 end: 22.0 In considering the study of physical phenomena, not merely in its bearings on the material wants of life,

start: 22.0 end: 29.76 but in its general influence on the intellectual advancement of mankind, we find its noblest and most important result to be a knowledge

start: 29.76 end: 34.8 of the chain of connection, by which all natural forces are linked together and made mutually

start: 34.8 end: 39.78 dependent upon each other, and it is the perception of these relations that exalts our views

start: 39.78 end: 42.88 and ennobles our enjoyments.

start: 42.88 end: 46.56 Such a result can, however, only be reaped as the fruit of observation

start: 46.56 end: 50.88 and intellect, combined with the spirit of the age in which are reflected all the varied

start: 50.88 end: 56.7 phases of thought. He who can trace through bygone times the stream of our knowledge to

start: 56.7 end: 61.92 its primitive source will learn from history how for thousands of years man has labored

start: 61.92 end: 65.12 amid the ever-recurring changes of form to recognize

start: 65.12 end: 71.76 the invariability of natural laws, and has thus, by the force of mind, gradually subdued

start: 71.76 end: 76.0 a great portion of the physical world to his dominion.

start: 76.0 end: 80.84 In interrogating the history of the past, we trace the mysterious course of ideas yielding

start: 80.84 end: 85.2 the first glimmering perception of the same image of a cosmos, or harmoniously

start: 85.2 end: 90.32 ordered whole, which dimly shadowed forth to the human mind in the primitive ages of

start: 90.32 end: 95.88 the world, is now fully revealed to the mature and elective mankind as the result of long

start: 95.88 end: 100.24 and laborious observation.

start: 100.24 end: 105.2 Each of these epics of the contemplation of the external world, the earliest dawn of thought

start: 105.2 end: 111.44 and the advanced stage of civilization, has its own source of enjoyment. In the former,

start: 111.44 end: 116.4 this enjoyment, in accordance with the simplicity of the primitive ages, flowed from an intuitive

start: 116.4 end: 120.56 feeling of the order that was proclaimed by the invariable and successive reappearance of the

start: 120.56 end: 125.64 heavenly bodies and by the progressive development of organized beings,

start: 125.64 end: 129.12 while in the latter this sense of enjoyment springs from a definite knowledge of the

start: 129.12 end: 136.0 phenomena of nature. When man began to interrogate nature, and not content with observing, learned

start: 136.0 end: 141.04 to evoke phenomena under definite conditions, when once he sought to collect and record

start: 141.04 end: 150.08 facts in order that the fruit of his labors might aid investigation after his own brief existence had passed away. The philosophy of nature cast aside the vague

start: 150.08 end: 154.96 and poetic garb in which he had been enveloped from her origin, and having assumed a severer

start: 154.96 end: 160.8 aspect, she now weighs the value of observations and substitutes induction and reasoning for
start: 160.8 end: 166.36 conjecture and assumption. The dogmas of former ages survive now only
start: 166.36 end: 170.92 in the superstitions of the people and the prejudices of the ignorant, or are perpetuated
start: 170.92 end: 178.52 in a few systems which, conscious of their weakness, shroud themselves in a veil of mystery.
start: 178.52 end: 184.68 We may also trace the same primitive intuitions in languages exuberant and figurative expressions,
start: 184.68 end: 185.16 and a few of
start: 185.16 end: 190.16 the best-chosen symbols engendered by the happy inspiration of the earliest ages, having
start: 190.16 end: 194.96 by degrees lost their vagueness through a better mode of interpretation, are still preserved
start: 194.96 end: 200.96 among our scientific terms. Nature considered rationally, that is to
start: 200.96 end: 205.64 say, submitted to the process of thought, is a unity in diversity of phenomena.
start: 205.64 end: 211.16 A harmony blending together all created things, however dissimilar in form and attributes,
start: 211.16 end: 218.48 one great whole animated by the breath of life. The most important result of a rational inquiry
start: 218.48 end: 224.32 into nature is therefore to establish the unity and harmony of the stupendous mass of force and
start: 224.32 end: 230.4 matter, to determine with impartial justice what is due to the discoveries of the past and those of the present,
start: 230.4 end: 236.4 and to analyze the individual parts of natural phenomena without succumbing beneath the weight of the whole.
start: 237.6 end: 243.2 Thus and thus alone it is permitted to man, while mindful of the high destiny of his race,
start: 243.2 end: 245.64 to comprehend nature, to lift the
start: 245.64 end: 250.6 veil that shrouds her phenomena, and as it were, submit the results of observation to
start: 250.6 end: 255.36 the tests of reason and of intellect.
start: 255.36 end: 259.4 In reflecting upon the different degrees of enjoyment presented to us in the contemplation
start: 259.4 end: 264.72 of nature, we find that the first place must be assigned to a sensation which is wholly
start: 264.72 end: 265.36 independent of an intimate acquaintance with the must be assigned to a sensation, which is wholly independent
start: 265.36 end: 269.8 of an intimate acquaintance with the physical phenomena presented to our view, or of the
start: 269.8 end: 273.52 peculiar character of the region surrounding us.
start: 273.52 end: 278.6 In the uniform plain bounded only by a distant horizon, where the lowly heather, the cystus,
start: 278.6 end: 284.12 or waving grasses deck the soil, on the ocean shore where the waves, softly rippling over
start: 284.12 end: 285.76 the beach, leave a track,
start: 285.76 end: 291.44 green with the weeds of the sea. Everywhere, the mind is penetrated by the same sense of the
start: 291.44 end: 297.04 grandeur and vast expanse of nature, revealing to the soul, by a mysterious inspiration,
start: 297.04 end: 300.32 the existence of laws that regulate the forces of the universe.
start: 301.76 end: 307.96 Mere communion with nature, mere contact with the free air, exercise a soothing yet strengthening

start: 307.96 end: 313.08 influence on the wearied spirit, calm the storm of passion, and soften the heart when
start: 313.08 end: 317.36 shaken by sorrow to its inmost depths.
start: 317.36 end: 322.08 Everywhere in every region of the globe, in every stage of intellectual culture, the same
start: 322.08 end: 326.52 sources of enjoyment are alike vouchsafed to man.
start: 326.52 end: 330.88 The earnest and solemn thoughts awakened by a communion with nature intuitively arise
start: 330.88 end: 335.48 from a presentiment of the order and harmony pervading the whole universe, and from the
start: 335.48 end: 340.16 contrast we draw between the narrow limits of our own existence and the image of infinity
start: 340.16 end: 346.16 revealed on every side, whether we look upward to the starry vault of heaven, scan the far-stretching
start: 346.16 end: 351.68 plane before us, or seek to trace the dim horizon across the vast expanse of ocean.
start: 351.68 end: 358.76 The contemplation of the individual characteristics of the landscape, and of the
start: 358.76 end: 364.0 conformation of the land in any definite region of the earth, gives rise to a different source of
start: 364.0 end: 369.12 enjoyment, awakening impressions that are more vivid, better defined, and more congenial to certain
start: 369.12 end: 374.96 phases of the mind than those of which we have already spoken. At one time, the heart is stirred
start: 374.96 end: 380.24 by a sense of the grandeur of the face of nature, by the strife of the elements, or as in northern
start: 380.24 end: 385.32 Asia by the aspect of the dreary barrenness of the far-stretching steps.
start: 385.32 end: 390.22 At another time, softer emotions are excited by the contemplation of rich harvests rested
start: 390.22 end: 395.28 by the hand of men from the wild fertility of nature, or by the sight of human habitations
start: 395.28 end: 399.56 raised beside some wild and foaming torrent.
start: 399.56 end: 410.8 Here I regard less the degree of intensity than the difference existing in the various sensations that derive their charm and permanence from the peculiar character of the scene.
start: 410.8 end: 415.84 If I might be allowed to abandon myself to the recollections of my own distant travels,
start: 415.84 end: 420.72 I would instance among the most striking scenes of nature the calm sublimity of a tropical
start: 420.72 end: 425.52 night when the stars not sparkling as in our northern skies, shed their soft
start: 425.52 end: 429.26 and planetary light over the gently heaving ocean.
start: 429.26 end: 433.5 Or I would recall the deep valleys of the Cordilleras, where the tall and slender palms
start: 433.5 end: 439.16 pierced the leafy veil around them, and waving on high their feathery and arrow-like branches,
start: 439.16 end: 443.22 for as it were, a forest above a forest.
start: 443.22 end: 446.64 Or I would describe the summit of the peak of Tenerife, when a horizontal
start: 446.64 end: 451.84 layer of clouds dazzling in whiteness has separated the cone of cinders from the plain below,
start: 452.48 end: 457.44 and suddenly the ascending current pierces the cloudy veil, so that the eye of the traveler may
start: 457.44 end: 463.04 range from the brink of the crater along the vine-clad slopes of Oratava to the orange gardens

start: 463.04 end: 466.44 and banana groves that skirt the shore.
start: 466.44 end: 471.4 In scenes like these it is not the peaceful charm
uniformly spread over the face of nature
start: 471.4 end: 476.92 that moves the heart, but rather the peculiar
physiognomy and conformation of the land,
start: 476.92 end: 481.98 the features of the landscape, the ever-varying
outline of the clouds, and their blending
start: 481.98 end: 485.28 with the horizon of the sea, whether it lies
spread before
start: 485.28 end: 492.4 us like a smooth and shining mirror, or is dimly
seen through the morning mist. All that the senses
start: 492.4 end: 498.32 can but imperfectly comprehend, all that is most
awful in such romantic scenes of nature, may become
start: 498.32 end: 504.0 a source of enjoyment to man by opening a wide
field to the creative powers of his imagination.
start: 510.24 end: 515.12 Impressions change with the varying movements
of the mind, and we are led by a happy illusion to believe that we receive
from the external world that with which we have ourselves invested it.
start: 515.12 end: 520.76 When far from our native country, after a long
voyage,
start: 520.76 end: 523.84 we tread for the first time the soil of a tropical
land,
start: 523.84 end: 529.48 we experience a certain feeling of surprise and
gratification in recognizing in the rocks
start: 529.48 end: 535.44 that surround us the same inclined
schistostroma, and the same columnar basalt with cellular
start: 535.44 end: 540.82 amygdaloids that we had left in Europe, and
whose identity of character in latitudes so
start: 540.82 end: 545.06 widely different reminds us that the solidification
of the Earth's crust
start: 545.06 end: 551.64 is altogether independent of climatic influences.
But these rocky masses of schists and of basalt
start: 551.64 end: 556.44 are covered with vegetation of a character with
which we are unequaled and of a physiognomy
start: 556.44 end: 562.32 wholly unknown to us. And it is then, amid the
colossal and majestic forms of an exotic
start: 562.32 end: 565.4 flora, that we feel how wonderfully the flexibility
start: 565.4 end: 572.4 of our nature fits us to receive new impressions,
linked together by a certain secret analogy.
start: 572.4 end: 576.96 We so readily perceived the affinity existing
among all the forms of organic life, that
start: 576.96 end: 580.8 although the sight of a vegetation similar to that of
our native country might at first
start: 580.8 end: 590.0 be most welcome to the eye, as the sweet familiar
sounds of our mother tongue are to the ear. We nevertheless, by degrees
and almost imperceptibly, become
start: 590.0 end: 596.24 familiarized with a new home and a new climate.
As a true citizen of the world, man everywhere
start: 596.24 end: 601.32 habituates himself to that which surrounds him.
Yet fearful as it were of breaking the
start: 601.32 end: 608.48 links of association that bind him to the home of
his childhood. The colonist applies to some few plants in a far distant clime,
start: 608.48 end: 613.6 the names he had been familiar with in his native
land, and by the mysterious relations
start: 613.6 end: 618.8 existing among all types of organization, the forms
of exotic vegetation present themselves to

start: 618.8 end: 626.08 his mind as nobler and more perfect
developments of those he had loved in earlier days. Thus do the
spontaneous

start: 626.08 end: 631.36 impressions of the untutored mind lead, like the
laborious deductions of cultivated intellect,

start: 631.36 end: 638.56 to the same intimate persuasion that one's soul
and indissoluble chain binds together all nature.

start: 638.56 end: 666.24 It may seem a rash attempt to endeavor to
separate into its different elements the magic power exercised upon our
minds by the physical world, since the character of the landscape and of
every imposing scene in nature depends so materially upon the mutual
relation of the ideas and sentiments simultaneously excited in the mind of
the observer. The powerful effect exercised by nature springs as it were
from

start: 666.24 end: 671.36 the connection and unity of the impressions and
emotions produced, and we can only trace

start: 671.36 end: 676.24 their different sources by analyzing the
individuality of objects and the diversity

start: 676.24 end: 680.44 of forces.

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