

IN THE SUPREME COURT OF THE
STATE OF OREGON

COMCAST CORPORATION,
Plaintiff-Respondent
Cross-Appellant,

v.

DEPARTMENT OF REVENUE,
State of Oregon,
Defendant-Appellant
Cross-Respondent.

(TC 4909; SC S059764)

En Banc

On appeal from the Oregon Tax Court.*

Argued and submitted January 8, 2013.

Marilyn J. Harbur, Senior Assistant Attorney General, Salem, argued the cause for appellant/cross-respondent. With her on the brief was John R. Kroger, Attorney General.

Eric S. Tresh, Sutherland Asbill & Brennan LLP, Atlanta, Georgia, argued the cause for respondent/cross-appellant. With him on the briefs were Joseph M. DePew, Zachary T. Atkins, David L. Canary and Cynthia M. Fraser, Garvey Schubert Barer, Portland.

Jed Tomkins, Portland, filed a brief on behalf of *amicus curiae* Association of Oregon Counties.

Sean E. O'Day and Maja K. Haium, Salem, filed a brief on behalf of *amicus curiae* League of Oregon Cities.

Scott G. Seidman and Mark F. LeRoux, Tonkon Torp LLP, Portland, and Jeremy N. Kudon, Orrick Herrington & Sutcliffe LLP, New York, New York, filed a brief on behalf of *amici curiae* DIRECT TV and DISH Network.

* 20 OTR 319 (2011).

Mark Trincherro and Alan J. Galloway, Davis Wright Tremaine LLP, Portland, filed a brief on behalf of *amicus curiae* Associated Oregon Industries.

Ryan R. Nisle and John F. Neupert, Miller Nash LLP, Portland, filed a brief on behalf of *amicus curiae* Oregon Cable Telecommunications Association.

Julia E. Markley and Gregg Barton, Perkins Coie LLP, Portland, and Chérie R. Kiser, and Angela F. Collins, Cahill Gordon & Reindel LLP, Washington DC, filed a brief on behalf of *amicus curiae* Cable One, Inc.

LINDER, J.

The decision of the Tax Court is reversed, and the case is remanded to that court for further proceedings.

LINDER, J.

This is a direct appeal from a decision of the Oregon Tax Court Regular Division (the Tax Court) setting aside an Opinion and Order issued by the Director of the Department of Revenue (the department). ORS 305.445. The chief issue on appeal is whether either Comcast’s cable television service or internet access service qualifies as “communication” under ORS 308.515(1)(h) and is, therefore, subject to central assessment by the department pursuant to ORS 308.505 to 308.665. Under ORS 308.505(2), “[c]ommunication” includes “data transmission services.” In this case, whether Comcast’s cable television service or internet access service qualifies as a “communication” service or business depends on whether either service is a data transmission service.

The Tax Court concluded that Comcast’s internet access service, but not its cable television service, is a data transmission service. *Comcast Corp. v. Dept. of Rev.*, 20 OTR 319, 333, 335 (2011). The Tax Court further concluded that Comcast’s cable television service is the primary use of the property that Comcast uses for both. *Id.* at 337. Consequently, pursuant to ORS 308.510(5), the Tax Court determined that the property that Comcast uses for the two services was not subject to central assessment for the 2009-2010 tax year, contrary to the department’s determination. *Id.* Both parties appeal. The department contends that both services are data transmission services, while Comcast urges that neither service is. For the reasons that follow, we hold that both the cable television and internet access services qualify as data transmission services and are, therefore, communication services subject to central assessment under ORS 308.515(1)(h). Accordingly, we reverse and remand the decision of the Tax Court.

I. FACTUAL AND PROCEDURAL BACKGROUND

The following facts and those that we discuss later are drawn from the Tax Court opinion, as supplemented with additional facts derived from our review of the record. Although the parties dispute the conclusions to be drawn from the facts, the facts themselves are not significantly contested.

Comcast uses real property, tangible personal property, and intangible personal property to provide three services. Those services are cable television, internet access, and “voice over internet protocol” (VOIP).¹ The cable television and internet access services both involve, as the Tax Court found and Comcast does not dispute, “the communication of data.” *Comcast Corp.*, 20 OTR at 320. Many of the major tangible, personal, and real properties owned by Comcast are used in some way to provide all the services that Comcast offers, including the cable television and internet access services at issue in this appeal. As we later describe in additional detail, Comcast’s cable television service essentially provides video content (television, movies, and other video programming) to customers. The transmitted content or data flows between Comcast and its customers predominantly in one direction—from Comcast to the customer. Certain interactive features cause signals to flow in the opposite direction—from the customer to Comcast—as well. Those features mainly facilitate communication back from Comcast to the customer, such as transmitting a particular movie to the customer in response to the customer’s request for it through Comcast’s on-demand video product. For the most part, the content transmitted to the customers is either owned by Comcast or licensed to Comcast by third parties so that Comcast may transmit it to customers. A significant exception is advertisements, which third parties pay Comcast to transmit to Comcast’s customers. The revenue generated from local and national advertisers is a “significant part” of Comcast’s business, accounting for \$1.5 billion of revenue in 2008, for instance.

Comcast’s internet access service, just as the name suggests, provides access to the internet. In so doing, the internet access service facilitates the flow of content principally between the customer and third parties. In contrast to its cable television service, Comcast does not own, generate, or license that content. Instead, the content, which takes the form of e-mail, documents, video and audio files, and similar

¹ VOIP is effectively telephone service provided via the internet. Comcast does not dispute the department’s treatment of the VOIP service as a communication service; thus, only the treatment of the cable television and internet access services as communication services is at issue in this appeal.

information, is either generated by Comcast's customers and sent via Comcast's internet access service to others, or is generated by others and accessed by the customer through Comcast's service.

For both the cable television and the internet access services, the content transmitted from Comcast to the customer travels through Comcast's cable plant. The cable plant consists of tangible property in the form of

“signal receiving, encoding and decoding devices; headends and distribution systems; and equipment at or near *** customer's homes. The signal receiving apparatus typically includes a tower, antenna, ancillary electronic equipment and earth stations for reception of satellite signals. Headends consist of electronic equipment necessary for the reception, amplification and modulation of signals and are located near the receiving devices. [The] distribution system consists primarily of coaxial and fiber-optic cables, lasers, routers, switches, and related electronic equipment. [The] cable plants and related equipment generally are connected to utility poles under pole rental agreements with local public utilities, although in some areas the distribution cable is buried in underground ducts or trenches. Customer premises equipment (“CPE”) consists primarily of set-top boxes and cable modems.”

Comcast Corp., 2008 Annual SEC Report 16 (2009).

Until recent years, the department did not consider Comcast's internet and cable services to be subject to central assessment. As a result, the property used for the internet and cable services was subject to local assessment. When those services were locally assessed in 2008, the maximum assessed value (MAV) of all Comcast's tangible property, real and personal, owned and used in Oregon, was calculated at \$434,084,202. Beginning with the 2009-2010 tax year, the department treated cable television and internet access services as “communication” services or businesses and added Comcast, along with 125 other companies, to the central assessment roll. As of January 1, 2009, the department calculated the real market value (RMV) and MAV of all Comcast's property, real and personal, owned and used in Oregon, at \$1,135,868,000. That 2009 calculation included

the value of Comcast's intangible property, while the previous tax year values, which had been calculated through local assessment, had not. The addition of the value of Comcast's intangible property as a result of central assessment was, in large part, why the assessed value of Comcast's property increased so remarkably in 2009.

Comcast initiated this action, contesting the Opinion and Order issued by the department that centrally assessed the property that Comcast uses for its internet access and cable television services. The case went to trial before the Tax Court. The parties' arguments to the Tax Court presented widely divergent views of the meaning of "data transmission services" for purposes of ORS 308.505(2). Suffice it to say, Comcast argued that "data transmission services" meant the kind of private line intracompany data transmission services provided in 1973 by point-to-point microwave transmissions, which did not include cable television or internet access. The department, conversely, urged that the legislature used terminology broad enough to include businesses and services of all kinds, as long as the service provides the means to transmit data to and between the customer and others, which cable television and internet access providers (and perhaps many other businesses) do.

The Tax Court was not satisfied with either party's interpretation. The Tax Court considered the department's interpretation so expansive as to give the department an ability to set legislative policy in the guise of interpretation. *Comcast Corp.*, 20 OTR at 326-27. To avoid what it thought might be the potential unconstitutionality of the statute, the Tax Court concluded that the statute should be interpreted more narrowly than the department proposed. *Id.* at 327. But the Tax Court also rejected Comcast's position—which restricted the statute to "a particular technological form of data transmission" in the form of private line microwave service—as too narrow. *Id.* at 328. The Tax Court reasoned that the legislature could have expressly limited the statute to that service by using much more tailored terminology; instead, the legislature adopted broader language to address prospective technological developments. *Id.*

After rejecting the parties' positions, the Tax Court identified and adopted something of a middle-ground interpretation. In particular, the Tax Court concluded that, by referring to data transmission "services," as opposed to data as a commodity, the statute reached only businesses that, for a fee, take data owned or generated by one party and move it to another party. *Id.* at 332. In effect, the Tax Court drew a statutory line between companies that are a conduit for the data of others and companies that sell the data to the customer as well as provide the conduit for it.

With that interpretation of the statute in place, the Tax Court concluded that the cable television service is "not a communication business or a data transmission business within the meaning of ORS 308.505(2)," because it does not transmit data or content created by its customers, nor does it transmit, to any significant degree, content to its customers from others. *Id.* at 333. Rather, the cable television service principally transmits data (*e.g.*, television programming, movies, and special programming by subscription) that Comcast itself owns or otherwise has the right to transmit. The court reached the opposite conclusion, however, with regard to Comcast's internet access service. The Tax Court reasoned that, because the data that flows in the internet access service is "not data created by Comcast or data as to which [Comcast] has publication rights," Comcast's internet access service is a data transmission service within the meaning of ORS 308.505(2). *Id.* at 335. As noted, both parties, dissatisfied with the Tax Court's resolution of the issues, appeal.

On appeal, neither party defends the Tax Court's ultimate decision or the reasoning that led to it. Instead, the parties essentially renew the positions that they advanced below. The department contends that the legislature intended the phrase "data transmission services" to be broadly descriptive of any communication service that uses a network to transmit electronic data between computers or other devices capable of decoding and using that data. Because the legislature also added the words "by whatever means provided" to the definition, the department argues, it intended that the means of transmission would not be limited to any particular technology. As a result, according to the department, the statute reaches an open-ended class of

communication services not restricted to a specific technology or to the particular way that technology was used or applied as of 1973.

Comcast's interpretation lands at the opposite end of the spectrum. Comcast maintains that the legislature amended the statute in response to plans by entrepreneurs to construct a point-to-point (also termed "private line") microwave communication network along the west coast, including through Oregon. According to Comcast, "data transmission services" was added to the statute to describe the particular service that was prompting the expansion of the point-to-point microwave infrastructure—specifically, "intra-company" communication of business data. Through that service, a company could, for a fee, obtain a private line by which the company could send data between its own geographically distant offices and branches; the company could not, however, use that line to exchange data with outside entities or third parties. Comcast agrees that the legislature did not intend to limit the statute's reach to any particular technology by which intracompany point-to-point data transmission is accomplished, but urges that data transmission services was otherwise intended to be limited to that specific service.

II. ANALYSIS

Before turning to the specific question before us, we begin with an overview of central assessment and how it differs from local assessment of property. That background provides helpful context for the statutory interpretation issue presented.

A. *Central Assessment Generally*

What we now term "central assessment" had its origins in unit valuation, an assessment method that emerged in the latter half of the 19th century. Unit valuation, or the so-called "unit rule," was devised to address the difficult task of valuing a business as a going concern when the property of the business is located in more than one taxing district. James C. Bonbright, 2 *The Valuation of Property* 633 (1937).² Courts generally disfavored such valuations,

² Railroad property is a prime example of the kind of property suited to assessment using the unit rule. Originally, local assessors used unit valuation

however, because of inaccuracies in the assessment method and inequities in how it was administered at the local level. See, e.g., *People ex rel. Delaware, Lackawanna & W. R.R. Co. v. Clapp*, 152 NY 490, 495-96, 46 NE 842 (1897) (unit valuation “is misleading and impossible of application with any approach to justice or accuracy”).

Assessment by a single state assessment body, so-called “central assessment,” developed to remedy the perceived problems with unit valuations performed by local assessors, particularly in the context of railroad assessments. Bonbright, 2 *The Valuation of Property* at 637. Foremost among the solutions presented by central assessment was that it withdrew “the difficult task of assessing fractional parts of a railroad and its property from the hands of local assessors” likely to favor their own district in their assessment. *Union Pacific Railway Co. v. Cheyenne*, 113 US 516, 522, 5 S Ct 601, 28 L Ed 1098 (1885). Central assessment also allowed assessors to capture additional value inherent in certain property. In particular, central assessment made possible “assessments which would reach those large intangible values, called franchise value or good will, which could not be effectively taxed by local assessors.” Bonbright, 2 *The Valuation of Property* at 637 (internal quotation marks omitted). As the United States Supreme Court explained in *Cleveland Railway Co. v. Backus*, 154 US 439, 444, 14 S Ct 1122, 38 L Ed 1041 (1894):

“The true value of a line of railroad is *** the aggregate of those values plus that arising from a connected operation of the whole, and each part of the road contributes not merely the value arising from its independent operation, but its mileage proportion of that flowing from a continuous and connected operation of the whole.”

Thus, many states set up state boards of assessment for the purpose of assessing certain property as a single unit on a statewide or “central” basis.

to value railroad property—usually a segment of track—in their taxing district as a portion of the property of a particular railroad’s entire business. Bonbright, 2 *The Valuation of Property* at 635. The value of the railroad property located in a county was calculated in proportion to the value of the all of the railroad’s property as a going concern. Telegraph, telephone, pipeline, and other companies with property that crossed into more than one taxing district also were commonly assessed using the unit rule. *Id.*

Oregon was among those many states. In 1909, the Oregon Legislature formed the Board of State Tax Commissioners (the tax board) for the purpose of taxing certain property as a single unit on a statewide basis. In particular, the legislature enacted Lord's Oregon Laws, title XXVIII, ch VI, §§ 3614 to 3660 (Oregon Laws 1909, chapter 218), the predecessor statutes to the central assessment statutes now set out at ORS 308.505 to 308.665. The duty of the tax board, among other things, was:

“To make an annual assessment *** of the property having a situs in this state *** of all railroad companies, sleeping car companies, union station and depot companies, electric and street railway companies, express companies, telegraph companies, telephone companies, refrigerator car companies, oil and tank line companies, and of such heat, light, power, water, gas, and electric companies as may be doing business as one system, partly within this state and partly without, or so doing business in more than one county of the state.”

Lord's Oregon Laws, title XXVIII, ch VI, § 3617(15) (1909) (predecessor to ORS 308.515). The legislature directed the tax board to value the property subject to its assessment authority according to the unit rule. Lord's Oregon Laws, title XXVIII, ch VI, § 3623 (1909) (board “may value the entire property, both within and without the [S]tate of Oregon, as a unit” to ascertain the “actual cash value of the property assessable by it”).

Oregon's original central assessment scheme was consistent with the development of unit valuation and central assessment statutes nationally. The legislature subjected two broad categories of property to central assessment. The first encompassed property operated as a network over a geographically large area, such as the property of railroad, telegraph, telephone, and pipeline companies. It also included the property of public utility-type companies, such as heat, light, power, and water companies, but only if the utilities did business “as one system” across state or county lines. *Id.* § 3617(15). The second category encompassed non-networked property that was associated with the networked property in the first category. Thus, sleeping

car, refrigerator car, union station, depot, and express³ companies were also subject to central assessment. *Id.*

Over the next several decades, the statute remained focused on the two categories of property originally subject to central assessment, despite additions and deletions of various types of companies. *See, e.g.*, Oregon Code, title LXIX, ch 4, § 69-404(15) (1930) (including “private car companies” and “tank line companies,” and omitting “oil and tank line companies”), OCLA § 110-505(14) (1940) (including “pipe line companies, toll bridge companies, heating companies,” “people’s utility districts and aircraft companies engaged in air transport of passengers, freight, express or mail”). In 1951, the legislature restructured ORS 308.515 into its current form. For the most part, rather than list specific companies that were subject to central assessment, the legislature instead identified the companies in a more general way by describing the nature of service that they provided or the business that they were in—that is, all companies “engaged in performing or maintaining any of the [listed] businesses or services.” Or Laws 1951, ch 586, § 2. Thus, the statute listed “railroad transportation,” “telegraph communication,” and “telephone communication” instead of railroad, telegraph, and telephone companies specifically. *Id.*⁴ The 1951 restructuring generally remains in place today, although certain specified commodities are now also subject to central assessment, and the listed commodities, businesses,

³ An “express company” was the forerunner of companies today like UPS and FedEx. An express company, however, did not own the “means of conveyance”—it simply carried “packages on passenger and express trains, steamboats and stages in the care and custody of its employes [*sic*] who accompany the packages *** and simply pays to the railroad companies and the owners of the steamboats and stage coaches for the passage of messengers and their accompanying packages.” *Adams Express Company v. Ohio*, 165 US 194, 202, 17 S Ct 305, 41 L Ed 683 (1897).

⁴ The purpose of the statute and the nature of the property subject to central assessment did not change with the 1951 amendments. Property operated as a network over a geographically large area, such as property involved in railroad transportation, electric rail and trackless trolley transportation, telegraph communication, telephone communication, along with heating, water, gas, and electric companies, remained subject to central assessment. *See* Or Laws 1951, ch 586, § 2 (listing businesses and services). And non-networked property associated with the networked property, such as railroad switching and terminal, sleeping car, refrigerator car, private car, and tank car businesses or services, along with certain kinds of air and water transportation, also remained subject to central assessment after the 1951 restructuring. *Id.*

and services subject to central assessment are set out in paragraphs of a single section of the statute providing for central assessment of property. ORS 308.515(1).

B. *Central Assessment of “Communication” and “Data Transmission Services”*

That overview of central assessment generally and the evolution of Oregon’s specific central assessment scheme brings us to the statutes as they exist today. The statutes that provide for the assessment and taxation of property in Oregon are consolidated in ORS chapter 308. As a general matter, Oregon property is assessed in one of two ways—it is either centrally assessed by the department or locally assessed by a county assessor. ORS 308.517(5) (all property not assessed by the department assessed by county assessor of county in which property situated). As noted, the current central assessment scheme is codified under ORS 308.505 to 308.665.⁵

The particular dispute that we must resolve in this case involves ORS 308.505 and ORS 308.515. ORS 308.515(1) provides for the central assessment of certain businesses, services, and commodities:

“The Department of Revenue shall make an annual assessment of any property that has a situs in this state and *** is used or held for future use by any company in performing or maintaining any of the following businesses or services or in selling any of [certain] commodities ***[.]”

The statute goes on to list the particular services, businesses, and commodities that are subject to central assessment.

⁵ The parties cite the 2007 version of the statute, then-numbered ORS 308.505(2). In 2009, the legislature renumbered parts of the statute. As a result, the definition of communication is now codified as ORS 308.505(3). The legislature also amended the definition of “communication” in ORS 308.505(3) to remove the reference to “telegraph communication,” see Or Laws 2009, ch 128, § 3, which by then effectively had ceased to exist. Those changes were part of a more extensive bill that updated archaic language, reordered definitions, and conformed wording throughout the central assessment statutes. The legislative history for the bill makes clear that the department, as the sponsor of the amendments, was not proposing any substantive change to the statutes. Or Laws 2009, ch 128, § 1 (purpose of the 2009 amendments was “to modernize and clarify the central assessment statutory law, while continuing the central assessment system as it currently operates”; amendments “do not constitute a change in the policies of the State of Oregon”). Thus, the deletion of “telegraph communication” has no bearing on this case. We analyze and refer to the 2007 version of the statute, then-numbered ORS 308.505(2).

It bears emphasizing, however, that only the *property* used in the business, service, or commodity is assessed (and thus taxed). The value of the business, service, or commodity itself is not subject to central assessment.

Until 1973, ORS 308.515(1) specifically included “telegraph communication” and “telephone communication” together with other centrally assessed businesses and services such as railroad transportation, air transportation, heating, gas, and electricity. ORS 308.515(1)(a) (1971). In 1973, however, the legislature replaced the references to telegraph and telephone communication with the more general term “communication.” Or Laws 1973, ch 402, § 8 (Senate Bill 81). Simultaneously, the legislature further described what “communication” includes in a way that ensured that telegraph and telephone communication services would continue to be centrally assessed, but so would additional communication services as well. In particular, the legislature amended ORS 308.505 to specify that the term “communication,” as used in the statutes governing central assessment, “includes telephone communication, telegraph communication, and data transmission services by whatever means provided.” Or Laws 1973, ch 102, § 1 (codified as ORS 308.505(2)).⁶

As earlier described, the dispute in this case centers on the 1973 addition to the statute that made “data transmission services by whatever means provided” a communication service that is subject to central assessment. The dispute arises now, some 40 years after the 1973 amendments, because the department, until recent tax years, did

⁶ The parties debate at some length whether the term “includes” as used in the statute is one of inclusion or limitation. The department argues that the use of the term “includes” indicates that the statute was intended to be a nonexclusive list of representative “communication” services, and that services other than those listed (that is, other than telephone communication, telegraph communication, and data transmission services) are also centrally assessable if they qualify more generally as a communication. Comcast argues in response that “includes” was intended to limit the term “communication” to the services that are listed. Consequently, in Comcast’s view, if neither its internet access nor its cable television service qualify as “data transmission services,” which is the only listed service that they arguably would fit, those services are not centrally assessable. Because we later conclude that both Comcast’s cable television and internet access services are “data transmission services,” we do not have to decide whether “communication” services are limited to the ones listed in ORS 308.505(2) or include other services as well.

not take the position that Comcast’s cable television and internet access services are data transmission services within the meaning of ORS 308.505(2). As we will describe in greater detail later, cable television service existed at the time of the 1973 amendments, but the technology involved in delivering that service has undergone significant change since then. Internet access service, on the other hand, did not exist at all in 1973. How the policy that the legislature adopted in 1973 applies to the cable television and internet access services supplied by Comcast today lies at the heart of the disagreement between the parties. In Comcast’s view, because “data transmission services” in 1973 were not used to provide either cable television or internet access service, to conclude now that those services are data transmission services would distort the legislature’s intent. In the department’s view, the legislature did not intend to limit “data transmission services” to the particular applications or uses that existed when the legislature amended the statute in 1973; rather, such services were intended to encompass any new or evolving business that, from a technological standpoint, serves its customers through the service of data transmission.

To resolve the parties’ disagreement, we use our familiar methodology for interpreting statutes. In particular, we first explore the text and context, and we then turn to the legislative history of the pertinent statutes. [*State v. Gaines*](#), 346 Or 160, 171-72, 206 P3d 1042 (2009). As we will explain, in this particular instance, we conclude that “data transmission services” is a technical term, which requires us to explore the meaning and usage of the term in the specialized field from which it was borrowed.

1. *Plain Text and Context*

Our goal in interpreting a statute is to determine what meaning the legislature intended in drafting the statute. *PGE v. Bureau of Labor and Industries*, 317 Or 606, 610, 859 P2d 1143 (1993). When the legislature provides a definition of a statutory term, we of course use that definition. Otherwise, we ordinarily look to the plain meaning of a statute’s text as a key first step in determining what particular terms mean. *Id.* at 611 (first step in statutory analysis is to consider “plain,

natural, and ordinary meaning” of text). And, as stilted as the approach may sometimes seem, we frequently consult dictionary definitions of the terms, on the assumption that, if the legislature did not give the term a specialized definition, the dictionary definition reflects the meaning that the legislature would naturally have intended. See *State v. Murray*, 340 Or 599, 604, 136 P3d 10 (2006) (so explaining).⁷

An exception to that approach arises when the legislature uses technical terminology—so-called “terms of art”—drawn from a specialized trade or field. In that circumstance, we look to the meaning and usage of those terms in the discipline from which the legislature borrowed them. So, for example, when a term is a legal one, we look to its “established legal meaning” as revealed by, for starters at least, legal dictionaries. See, e.g., *Dept. of Rev. v. Croslin*, 345 Or 620, 628, 201 P3d 900 (2009) (resorting to *Black’s Law Dictionary* for definition of “damages”). We potentially also consider the overall statutory scheme in which a legal term appears, as well as the meaning that the term has for regulators who oversee the field. See, e.g., *Dept. of Transportation v. Stallcup*, 341 Or 93, 99-102, 138 P3d 9 (2006) (“appraisal” in condemnation statute is a legal term; legal dictionary definition considered together with overall statutory scheme and interpretation by board that regulates and certifies appraisers). Likewise, when the legislature uses terms drawn from disciplines such as psychiatry, medicine, or other specialized areas, the court determines the meaning of those terms based on how they are used and understood in the specialized field, trade, or profession, and using sources that best accord with the legislature’s intent. See, e.g., *Tharp v. PSRB*, 338 Or 413, 423, 110 P3d 103 (2005) (in statute providing for guilty except for insanity defense, “‘mental disease or defect’ and ‘personality disorder,’ *** are terms of art that are used in the context of professional disciplines such as psychiatry

⁷ In particular, this court most often looks to the definitions provided in *Webster’s Third New Int’l Dictionary* (unabridged ed 2002). See *Kohring v. Ballard*, 355 Or 297, 304 n 2, 325 P3d 717 (2014) (noting frequency of citation and explaining likely reason for resorting to *Webster’s Third* over other dictionaries). In consulting dictionaries, however, it is important to use sources contemporaneous with the enactment of the statute. See, e.g., *State v. Perry*, 336 Or 49, 53, 77 P3d 313 (2003) (“In interpreting the words of a statute enacted many years ago, we may seek guidance from dictionaries that were in use at the time.”).

and psychology”); *Mueller v. PSRB*, 325 Or 332, 339, 937 P2d 1028 (1997) (in context of determining Psychiatric Security Review Board’s jurisdiction over petitioner, phrase “personality disorder” is “term of art as to which the DSM-III was the definitive source”).

Here, neither party approaches the phrase “data transmission services” as one that is best interpreted by reference to a common and natural meaning.⁸ Rather, both parties more or less assume that the term is a technical term of art. They then attempt to determine that technical meaning, arriving at markedly different conclusions in the process.

At the outset, we agree that “data transmission services” is a technical phrase that we should interpret as such. The words in combination are the first clue that points to that conclusion. Although the phrase consists of common individual words, collectively they have no familiar or common meaning. For instance, the definition of “datum,” the singular of the otherwise undefined “data,” is not helpful even as a starting point:

“[S]omething that is given either from being experientially encountered or from being admitted or assumed for specific purposes : a fact or principle granted or presented : something upon which an inference or an argument is based or from which an intellectual system of any sort is constructed *** : material serving as a basis for discussion, inference, or determination of policy *** : detailed information of any kind[.]”

Webster’s Third New Int’l Dictionary 577 (1971). When combined with the other terms in the phrase—“transmission” and “services”—the phrase does not lend itself to any common or ordinary lay meaning.⁹ As is often true of other

⁸ In its brief, the department makes some effort to interpret the phrase based on its common meaning, but then focuses on the technical meaning of “data transmission services.” As we will explain, the effort to piece together a collective lay meaning from the individual words of the phrase is not helpful, and just as the department turns quickly to technical sources, so do we.

⁹ See also *Webster’s* at 2075 (defining “service” as, among other things, “useful labor that does not produce a tangible commodity,” “the provision, organization, or apparatus for conducting a public utility or meeting a general demand,” and “offering a product useful only in making another product or in performing associated tasks or services”); *id.* at 2429 (defining “transmit” as, among other things, “to cause to go or be conveyed to another person or place,” “to pass on or spread about,” and “to cause (as light or force) to pass or be conveyed through space or a medium”).

technical terminology, it would be “futile” to try to cobble together definitions of the individual words to make collective sense of the phrase as a whole. *See, e.g., Tharp*, 338 Or at 423 (observing futility of giving terms “mental disease or defect” an ordinary or common meaning).

The context in which the phrase appears likewise points to its technical nature. And, more helpfully, context points to the technical field from which its meaning should be drawn. As noted, before the 1973 amendments added data transmission services to the central assessment scheme, ORS 308.515 specifically designated “telegraph communication” and “telephone communication” as services or businesses subject to central assessment. ORS 308.515(1)(a) (1971). Senate Bill 81 (SB 81) deleted the specific references to telephone and telegraph communication and replaced them with the much more general reference to the business or service of “communication.” ORS 308.515(1).

Had the legislature left the statute in that form, the term “communication” might have been exceptionally broad, encompassing any service, business, or commodity that entailed any verbal, written, or electronic exchange of thoughts, ideas, or information.¹⁰ Simultaneously, however, the legislature amended ORS 308.505 to provide that “communication” includes telephone and telegraph communication, thus tying the term to the traditionally centrally assessed field of telecommunications.¹¹ Or Laws 1973,

¹⁰ “Communication” as a lay term is defined in pertinent part as:

“**1** : the act or action of imparting or transmitting *** **2 a** : facts or information communicated **b** : a letter, note, or other instance of written information *** **3 a obs** : CONVERSATION, TALK *** **b communications pl** : means of communicating: (1) : a system (as of telephones or telegraphs) for communicating information and orders (as in a naval service) *** (3) : the function in an industrial organization that transmits ideas, policies, and orders *** **6 a** : interchange of thoughts or opinions : a process by which meanings are exchanged between individuals through a common system of symbols (as language, signs, or gestures).”

Webster’s at 460.

¹¹ We use the term “telecommunications” in the same way that it was used by David Olson, a Professor of Telecommunications Law, who was asked to define it when he testified before the Tax Court. He explained that the term “communication” within the field means “voice, video and data” and that “telecommunication” simply means “voice, video, and data sent over a distance.” Because of its prevalence in everyday life, “telecommunication,” although a technical term, has acquired a common meaning that is effectively the same: “**1** : communication at a

ch 102, § 1. And, also simultaneously, the legislature added “data transmission services” as an additional business or service that qualifies as “communication.” *Id.* ch 402, § 8. The central assessment scheme is one that, as we have described, generally encompasses regulated and highly specialized businesses, industries, and services that depend on networked lines of transportation or transmission that cross geographical boundaries. The fact that “data transmission services” is part of that scheme contextually confirms that the phrase “data transmission services” is a technical one. As important, the fact that the service is listed under “communication” along with telephone and telegraph communication services strongly suggests that the phrase was drawn from the telecommunications field.

2. *Technical Meaning*

Although the parties seem to agree that “data transmission services” was intended by the legislature to be a technical term, their agreement ends there. They disagree on what sources we may consider to determine its meaning, as well as on the ultimate meaning of the phrase—that is, they disagree on the nature of the businesses and services that the legislature understood to fall within the phrase.

The department begins by exploring technical sources for a definition of the term. One contemporaneous source that the department cites is Harley Carter, *Dictionary of Electronics* 354 (2d ed 1972):

“Data Transmission. Broadly speaking, any process of transmitting information, but the term now has a specialized meaning, namely the transmission of information via telecommunication circuits in some code, such as the Binary Scale, for Data Storage and processing.”

The department’s other sources for relevant technical definitions are generally to the same effect.¹²

distance (as by cable, radio, telegraph, telephone, or television) **2**: the science that deals with telecommunication <study ~> usu. used in pl.” *Webster’s Third* at 2349.

¹² See, e.g., *IEEE Standard Dictionary of Electrical and Electronics Terms* 161 (2d ed 1977) (defining “data transmission” as “[t]he movement of encoded information by means of communication techniques”) and *Elsevier’s Dictionary of Computers, Automatic Control and Data Processing* 89 (2d ed 1971) (“data transmission” defined as “the transmission between remote points of data in coded form by means of signals”).

Comcast, for its part, offers no technical definitions in support of its position or that otherwise contradict those that the department provides. Rather, Comcast responds to the department's citations by asserting, in effect, that we should not look to technical dictionaries because they do not have the same "notoriety" as do dictionaries of common usage, such as *Webster's Third*. Moreover, Comcast urges, the department has not demonstrated that the legislature "consulted or referenced any technical dictionaries" when it added "data transmission services" to the statute in 1973. In Comcast's view, apparently, technical sources that establish the settled meaning of technical or other terms of art are irrelevant unless the legislature was aware of the technical meanings of the terms that it adopts.

We know of no principle that prevents the legislative branch of government from adopting the technical meaning of terms as they are used and understood in a specialized trade or field without the legislature first being fluent in that meaning. Certainly, our own cases have not burdened the legislative process with such a requirement. We have, instead, been willing to consult technical sources for the meaning of technical terms, without first asking whether the legislature did so. *See, e.g., Croslin*, 345 Or at 628 (using legal dictionary to define legal term); *Mueller*, 325 Or at 339 (using psychiatric diagnostic manual to construe meaning of "personality disorder"). Indeed, we have consulted such sources in circumstances where the legislative history revealed that the meaning to be given to a technical term was a source of debate during the legislative process, with the result that "the legislature had an 'idea' of the meaning of the term," but left the task of defining it more precisely to "the common law, the [administrative tribunal that hears disputes in the area], and the appellate courts." *Hopkins v. SAIF*, 349 Or 348, 360, 245 P3d 90 (2010) (interpreting term "arthritis" for purposes of workers compensation statute). Our approach to the interpretation of technical terms is a time-honored one. *See* William Blackstone, 1 *Commentaries on the Laws of England* 59 (1765). ("[In interpreting legislation,] terms of art, or technical terms, must be taken according to the acceptance of the learned in each art, trade, and science.").

That is not to say that, in interpreting “data transmission services” in this case, we must automatically adopt the technical definitions provided by sources such as those that the department cites.¹³ The interpretation to be given to the phrase “data transmission services” still depends on what meaning the legislature intended. If the legislature’s intent was to borrow from a technical field, then we look to that technical field, consulting technical sources for the range of meanings a term may entail and selecting from those meanings in a way that is consistent with the “idea” of the meaning that the legislature had in mind. *See id.* at 361-64 (concluding that legislature would have intended term “arthritis” to encompass core aspects of condition, as revealed by medical sources; rejecting argument that term should be limited to a particular form of arthritis—osteoarthritis—when legislative history revealed no intent for more limited form). It is helpful, therefore, to examine legislative history to see whether it confirms that the phrase “data transmission services” was drawn from the telecommunications field and, if so, what the history conveys about the legislature’s understanding of the phrase’s technical meaning.

3. *Legislative History*

The parties agree that the impetus for the 1973 amendments that added “data transmission services” to the central assessment scheme arose when the Federal Communications Commission (FCC) began licensing companies as specialized common carriers to compete with telephone communication companies. *Specialized Common Carrier Decision*, 29 FCC 2d 870, 920 (1971). Several carriers, including Microwave Communications of America, Inc.

¹³ In *Davidson v. Oregon Government Ethics Comm.*, 300 Or 415, 420, 712 P2d 87 (1985), this court stated that we do not give effect to the intent of the legislature “by consulting dictionary definitions of words, unless there is reason to believe that the legislature consulted the same dictionary” and “no single dictionary is authoritative.” We further observed, however, that dictionary meanings are appropriate to consult to the extent they are “compatible with legislative policy.” *Id.* at 421. Our approach here is the same. Unless the legislature is shown to have chosen its words in reliance on a particular dictionary definition of them, no particular dictionary is “authoritative” or otherwise controlling. But that does not mean that this court should not consult dictionary definitions of both plain and technical terms to assist in interpreting a statute in a way that is consistent with legislative intent.

(MCI), obtained FCC approval to provide private line services so that subscribers could communicate, among other things, “data and other non-voice traffic” between geographically distant locations via point-to-point microwave transmissions. *Washington Utilities & Transp. Com’n v. F.C.C.*, 513 F2d 1142, 1155 (9th Cir 1975). Although the same private line service was available through existing telephone transmission lines, microwave technology offered distinct advantages. Georgia Persons, *The Making of Energy and Telecommunications Policy* 88 (1995). In particular, the proposed microwave network would be low cost, would allow for rapid connection and high availability of lines, would provide a wider selection of transmission speeds, and would have lower transmission error rates. See *Specialized Common Carrier Decision*, 29 FCC 2d at 953 (discussing advantages cited by proposed carriers).

As a result of FCC approval to construct a microwave communication network along the Pacific Coast (from Seattle to San Diego), the department proposed the amendments to the central assessment statutes set out in SB 81. The purpose of SB 81 was to ensure that the planned microwave communication infrastructure would be subject to central assessment along with the existing telephone and telegraph infrastructures. See *Tape Recording*, House Revenue Committee, SB 81, Apr 20, 1973, Tape 35, Side 2 (“[I]t’s currently under construction across the state of Oregon *** a microwave communications network that will link Seattle, San Francisco, Los Angeles, and so on. *** We’d like to clearly include the assessment of [the planned communication network] within the Department of Revenue’s jurisdiction.”) (statement of Victor Bredehoeft, Department of Revenue).

Discussions during committee hearings and floor debates bear out our conclusion that the legislature understood “data transmission services” as a technical phrase drawn from the telecommunications field. For instance, in a Senate Revenue Committee hearing, the department representative explained that SB 81 would “clarify” the central assessment statutes by ensuring that “newly emerging data transmission services” would be, along with telephone and telegraph services, communications services subject to central assessment. *Tape Recording*, Senate Revenue

Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue).

The legislative history also reveals that the new communications service of data transmission was unfamiliar to legislators. One senator asked, “What is data transmission? Is this the phone-to-phone *** kind of thing?” *Id.* (statement of Senator Atiyeh). The department representative answered in the affirmative, explaining it was “the kind of thing” that involves “the transmission over telephone facilities or microwave [facilities] of data between computers primarily, or data from a computer terminal into a computer, or other nonverbal kind of data communication.” *Id.* (statement of Victor Bredehoeft, Department of Revenue). When SB 81 was later introduced for a vote on the Senate floor, the comments of the senator who introduced it, too, reflect that the phrase “data transmission services” was a technical one that was meaningful in the telecommunications field, even if legislators had only a limited understanding of that meaning:

“SB 81 ha[s] to do with [the] definitions of communications. The present language could very easily ignore *** a new type of communication which is known as—now I’m trying to think of the word—it had to do with *communications between computers or data processing or that type of communication*. *** [I]t is questioned whether [telegraph and telephone communication] really encompass *a computer-type of transmission of information*.”

Tape Recording, Senate Floor Debate, SB 81, Feb 15, 1973, Reel 3, Side 2 (statement of Sen Dick Hoyt) (emphasis added). A House member’s description of SB 81 when it later came to a vote on the House floor was similar:

“[T]he Department of Revenue can assess statewide certain items including communication and this included telephones and telegraph communication. There is a new one that has come up and that is data processing transmission by microwave and this simply adds this type of transmission to the present law. And it is a technical addition mainly.”

Tape Recording, House Floor Debate, SB 81, May 8, 1973, Reel 16, Track 1 (statement of Rep Howard Cherry).

The department, relying principally on those portions of the legislative history, urges that “data transmission services” was added to the description of centrally assessed “communication” services to capture emerging technology by which encoded data could more efficiently be sent between geographically remote computers or similar devices capable of sending and receiving that data. Comcast, however, urges that the legislature’s purpose was much narrower and that the meaning the legislature ascribed to “data transmission services” was narrow as well.

In particular, Comcast points to the portions of the legislative history referring to the planned construction of the microwave communication network along the west coast: “This bill is for the purpose of clarifying the language of the utility assessment statutes to make it clear that a new type of industry will come under our assessment jurisdiction, that is point-to-point microwave communications service.” Tape Recording, House Revenue Committee, SB 81, Apr 20, 1973, Tape 35 (statement of Victor Bredehoeft, Department of Revenue). Comcast also points to an exchange during the department’s testimony before the Senate Revenue Committee. There, a senator asked: “All I know about it is what I’ve seen advertised, *** but you’re talking about my company communicating with a branch of my company somewhere else[,]” to which the department representative responded, “Exactly.”¹⁴ Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statements of Victor Bredehoeft, Department of Revenue, and unnamed senator). According to Comcast, those portions of the legislative history support its position that the legislature intended the phrase “data transmission services” to mean only the intracompany transmission of business data via the private lines that would be offered over the newly licensed microwave communications infrastructure.

The legislative history as a whole, however, does not show that the legislature had the narrow intent that Comcast

¹⁴ In his explanation, Bredehoeft went on to explain that if a company established such a service only for its own use, it would not qualify under the statute because a company must offer the service “for hire”—that is, a company “providing these communication services must offer them to the general public for a fee.” Tape Recording, House Revenue Committee, SB 81, Apr 20, 1973, Tape 35 (statement of Victor Bredehoeft, Department of Revenue).

ascribes to it. To be sure, the private line business data transmission service that Comcast describes was the service that MCI offered in its first application to the FCC in 1963 to operate as a common carrier in the data communication market. See Stuart L. Mathison and Philip M. Walker, *Regulatory Policy and Future Data Transmission Services in Computer Communication Networks*, 327 (N. Abramson and F.F. Kuo, eds. 1973) (“The MCI carriers plan to interconnect their systems and cooperate with each other to provide a nationwide private-line communications network.”). And the growing demand for private line business data transmission services appears to be what drove many other companies to quickly follow MCI’s lead and apply for FCC permits to construct and operate microwave communication networks. *Id.* at 324-35, Table 9.5 (table listing microwave network applications).

But Comcast does not confront the portions of the legislative history that affirmatively show that the legislature understood “data transmission services” to be more encompassing terminology. In proposing the new language as part of SB 81, the department’s representative explained to the Senate Revenue Committee that it was designed to eliminate confusion that had existed in the past and “may exist in the future” in connection with assessment of “certain types of communications services.” Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue). The department’s representative further explained that SB 81 eliminated the “discriminatory” references to telephone and telegraph communication from current law, and instead was directed to “communication” services generally, which included telephone and telegraph communication, and also “data transmission services by whatever means provided.” *Id.* The plain import of that testimony was that data transmission services were not industry-specific—they could be provided by telephone, telegraph, and other means. What was important was the nature of the service itself. The legislature understood and endorsed the department’s testimony describing “data transmission services” in expansive terms as the transmission “of data between computers primarily, or data from a computer terminal into a computer, or other nonverbal kind of data communication.” *Id.*

In short, we agree with Comcast that the legislature amended the central assessment statutes in 1973 because of a particular precipitating problem—*viz.*, the FCC was licensing microwave companies to provide private line business data transmission services in competition with telephone companies. But we agree with the department that the legislature did not limit the amendment to that narrow problem. That is, it did not amend the statute by specifically adding microwave private line data transmission services to the other businesses and services already listed in the statute.¹⁵ Instead, the legislature opted to expansively reach all data transmission services, without regard to the use to which the data is put (for example, business rather than entertainment or educational uses). The legislature frequently makes policy choices of that kind:

“Statutes ordinarily are drafted in order to address some known or identifiable problem, but the chosen solution may not always be narrowly confined to the precise problem. The legislature may and often does choose broader language that applies to a wider range of circumstances than the precise problem that triggered legislative attention. For instance, lawmakers may believe that defining a narrower class for coverage under a statute would cause more problems in interpretation and administration and would be less efficient than to use broad, residual language that avoids such problems. When the express terms of a statute indicate such broader coverage, it is not necessary to show that this was its conscious purpose. In the absence of an affirmative showing that the narrower meaning actually was intended by the drafters, we shall take the legislature at its word ***.”

South Beach Marina, Inc. v. Dept. of Rev., 301 Or 524, 531, 724 P2d 788 (1986) (footnote omitted). Here, the legislative history of the 1973 amendments to the central assessment statutes confirms that the legislature addressed a particular precipitating concern (microwave companies being permitted to compete with telephone companies to meet demands for private line business data transmission) with a broader policy choice

¹⁵ In the past, the legislature has been specific and narrow when it intended to be. For instance, rather than subject “air transportation services” to central assessment when it intended only a subset of those services, the legislature specified the subset that it intended was “air transportation certificated by the Civil Aeronautics Board for scheduled air service.” ORS 308.515(1)(a) (1973).

(to centrally assess all data transmission services, regardless of the means by which they transmit the data).¹⁶

In sum, we conclude based on the text, context, and legislative history that the legislature used the phrase “data transmission services” with the understanding that it had a technical meaning within the telecommunications industry. Contrary to Comcast’s position, the phrase was not intended to refer only to the particular data transmission service (*i.e.*, private line microwave transmission of intracompany business data) that was creating competition for the first time with the telephone industry. Instead, the legislature painted with a broader brush and a conscious awareness that “data transmission services” in general involved “the transmission over telephone facilities or microwave facilities [or other means] of data between computers primarily, or data from a computer terminal into a computer, or other nonverbal kind of data communication.” Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue).

4. *Technical Meaning of “Data Transmission Services”*

The legislative history thus conveys the general sense in which the legislature used and understood the terminology “data transmission services.” It also conveys that the legislature adopted it as a technical phrase drawn from the telecommunications industry. It is helpful, for that reason, to examine the use and meaning of that terminology within the specialized field from which the legislature borrowed it to see if that usage further informs its meaning for purposes of ORS 308.505(2).

¹⁶ Comcast argues that *South Beach Marina* is “readily distinguishable” from this case, because here, unlike in *South Beach Marina*, legislative history exists to inform our understanding of the legislature’s intent. That misses the point. In *South Beach Marina*, we deferred to the broad meaning of the text because legislative history did not exist to establish the alternative possibility that the legislature intended a narrower meaning. When, as here, legislative history confirms that the legislature intended the broad meaning of the text it used in an enactment or amendment, that is an added reason to take the legislature at its word. See *State v. Walker*, 356 Or 4, 22, 333 P3d 316 (2014) (“[W]here the legislative history demonstrates that the legislature was aware of the expansive nature of an enactment’s text, yet chose not to narrow it, we are constrained to interpret the statute in a way that is consistent with that text, which is, in the end, the best indication of the legislature’s intent.”).

“Data transmission” emerged with the advent of the computer and, more particularly, with the need to transmit coded electronic information from one computing device to another in a different geographical location. That need arose when, beginning in the 1950s, businesses began to embrace the computer as a data or information processing tool. Andrew Davies, *Telecommunications and Politics: The Decentralised Alternative* 100 (1994). The computer revolutionized business processes with its ability to efficiently and precisely organize, aggregate, analyze, and then communicate information in electronic form. *Id.* at 102.¹⁷ The capabilities of a single computer were multiplied when it was connected to other computers in a way that permitted each to easily send and receive information to and from the others. Stuart L. Mathison and Philip M. Walker, *Computers and Telecommunications: Issues in Public Policy* vi (1970). That development drove the demand to put the telecommunication infrastructure to use for something other than voice transmission: Telephone lines were the means by which computing devices could be networked. Davies, *Telecommunications and Politics: The Decentralised Alternative* at 104-05.

“Data transmission service” became the terminology used within the telecommunications field to describe the service that carried or transmitted electronic information from a computer, data terminal, or other electronic device to another computer, data terminal, or other electronic device at a geographically distant location. That usage and understanding is reflected in FCC decisions, cases, law review articles, and textbooks published in or before 1973, when

¹⁷ The concept of “information processing” became a formalized part of business activity in the mid- to late-19th century, long before computers existed. Davies, *Telecommunications and Politics: The Decentralised Alternative* at 95. For larger companies to make effective and competitive management decisions, they had to be able to organize, aggregate, and quickly retrieve records of sales, orders, debts, credits, and inventories. *Id.* As the author of a telecommunications regulatory treatise explains, information processing began as a time- and personnel-intensive activity that evolved with related advances in technology:

“[B]y the 1890s, information-processing was entirely paperbased. Large armies of clerks and bookkeepers posted figures by hand, and undertook the responsibility of screening and retrieving reports. [T]he introduction of electromechanical punchcard and tabulating machinery improved the organisation [*sic*] of data into aggregates. Entries were punched on cards which could be retrieved by sorting machines and aggregated into totals by tabulating machines.”

the legislature added “data transmission services” to the central assessment statutes.

For instance, in its application for authorization to construct microwave radio facilities to provide specialized common carrier services, Data Transmission Corporation (Datran) proposed an “all digital communications net work specifically engineered for data transmission.” *Specialized Common Carrier Decision*, 29 FCC 2d at 872. In considering Datran’s application, the FCC used the term “data transmission services” to mean the service of sending information in coded electronic form for the purpose of processing that data at the other end of the transmission, as this portion of the FCC’s decision illustrates:

“According to Datran, its market studies show that major economic sectors, individual consumers, and providers of information systems and services in the aggregate have a rapidly expanding need for rapid, accurate, low-cost data transmission services which is largely unmet by present common carrier offerings. Specifically, Datran claims that the costs of existing communications services have not declined in proportion to data processing costs; that existing analog transmission systems require costly modulator-demodulator equipment to convert digital signals to analog and back again; that current switched services often take significant time to establish connections, which detracts from the productivity of the data terminal and operator; that transmission systems originally engineered for voice and record transmission do not meet the more demanding reliability standards of digital data transmission[.]”

*Id.*¹⁸

¹⁸ In the same decision, the FCC went on to describe a similar application by MCI. According to MCI, “[t]he computer industry ‘desperately’ needs a communications network designed especially for data transmission. MCI would provide this network (accepting both analog and digital data signals) and meet many of the communications needs of the computer industry forecast over the next five years ***.” 29 FCC 2d at 875. Similarly, in another decision considering an application to establish a nationwide “communications network providing terminal-computer and computer-computer communications utilizing technology known as ‘packet-switching,’” the FCC explained that the applicant sought to serve “data transmission markets.” *Packet Communications, Inc.*, 43 FCC 2d 922, 922, 923 (1973). The application was supported by Computer Corporation of America (CCA), a business that planned to offer “a nation-wide data bank service, which will provide data storage facilities for remote access by computers and terminal devices.” *Id.* at 924.

In a 1966 case reviewing FCC orders resolving claims of common carrier rate discrimination, the United States Court of Appeals for the District of Columbia Circuit noted the changes that had taken place in the telecommunications industry in response to the demand for more communication services. The following excerpt usefully highlights the then-recent communication innovations and illustrates again that, well before 1973, “data transmission” was understood within the telecommunications industry as the service of sending information in electronically coded form:

“Modern government and modern industry have begun to require mass communication. Modern science has kept pace with these requirements. Thus in a nation-wide business the management frequently does not wish to read over a telephone from a central office to one or several branch offices the details of a statistical report. Waste of time and very great possibility of error in transmission would be thus involved. Management wants to reproduce the report in San Francisco exactly as it exists in New York. Science has supplied the means for doing this. And similarly there is equipment and carrying ability for many sorts of *data*, voices, automatic typewriting, photographic reproduction, signaling devices, and what is called merely *data transmission*.”

American Trucking Associations, Inc. v. F.C.C., 377 F2d 121, 125, (DC Cir 1966) (emphasis added).

The challenges of setting regulatory policy to meet the growing demands for data transmission services spurred considerable legal academic discussion. Law review articles from the late 1960s and early 1970s generally discussed data transmission in the same way that it was discussed in the hearings on SB 81—that is, as the transfer and transmission of coded electronic information between computers or computer-like devices. Because of their forward-thinking focus, those articles often described not just then-existing demands for data transmission services (such as the microwave applications for private line intracompany data transmission), but also anticipated future demands. For instance, in 1967, one author forecast:

“Within the decade, electronic data centers will provide computational power to the general public in a way

somewhat analogous to today's distribution of electricity. Computer systems will blanket the United States, establishing an informational grid to permit the mass storage, processing, and consumption of a variety of data services: computer-aided instruction, medical information, marketing research, stock market information, airline and hotel reservations, banking by phone—to mention only a few.”

Manley R. Irwin, *The Computer Utility: Competition or Regulation?*, 76 Yale L J 1299, 1299 (1967). That same author described projections that, within only a few years (*i.e.*, by the early to mid-1970s), 50 to 90 percent of all computers would be “on-line” and “over half of the nation’s communications will be transmitted as data rather than by voice,” which in turn “will bring the data processing and the communication industries into unprecedented intimacy.” *Id.* at 1300 (footnote omitted). A 1972 article made what might then have been the provocative prediction that computers linked to telecommunication lines would soon be in every home:

“[The] combination of computers and communications may provide us with the means of establishing a national computer utility, with computer consoles in every home, on an Orwellian model. It is predicted that by the end of this decade data communications will exceed voice communications and the volume of communications among computers will exceed that among humans.”

Barry Taub, *Federal Communications Commission Regulation of Domestic Computer Communications: A Competitive Reformation*, 22 Buff L Rev 947, 950 (1972) (footnotes omitted).

Textbooks from 1973 and earlier likewise demonstrate that “data transmission services” was commonly understood in the telecommunications field to refer generally to the transmission of electronic information between devices capable of coding and decoding that information for any number of purposes. For instance, in a 1970 textbook, Stuart L. Mathison and Philip M. Walker explained: “Rapid advances in computer technology and in the design and programming of large computer systems have increased the commercial usefulness of ‘remote access data processing systems’—*i.e.*, systems in which data is transmitted by

communications links to and from a computer performing data processing functions.” Mathison and Walker, *Computers and Telecommunications: Issues in Public Policy* at 12. Later, in 1973, those same authors more explicitly referred to “data transmission” in the context of exchanging coded electronic information in a variety of settings:

“The importance of the need for suitable and efficient data transmission facilities should not be underestimated. Computer systems and data networks are proliferating and assuming ever-increasing importance in virtually all sectors of our economy. Vital industries and government organizations are becoming increasingly dependent upon data transmission facilities—in some cases to the same degree that they have come to depend upon nationwide telephone service for their day-to-day operations. The operations of the stock exchanges, the airlines, and the national air defense system, for example, would be crippled were their data communication links to fail. The growth of data transmission both among these users and throughout the U.S. economy reflects the fact that data transmission facilities will *** become a part of the nation’s infrastructure.”

Mathison and Walker, *Regulatory Policy and Future Data Transmission Services in Computer Communication Networks* at 296-97.

Those technical sources uniformly convey that, as of 1973, “data transmission services” referred broadly to the transmission through telecommunication networks of coded information in electronic form. Government, business, and others had varied reasons and needs to transmit data over a distance, and had varied kinds of information to send and receive in data form. As of 1973, the existing demand for data transmission services was limited. But there was widespread recognition that demand would change and that data transmission was destined to become the prevalent means of communicating most information across a distance.

The use and meaning of “data transmission services” in the telecommunications industry is thus consistent with how the terminology was understood by the legislature in 1973. As we have concluded, the legislature understood the terminology to be meaningful in the telecommunications

field and to broadly describe, as the department's representative put it, "the transmission over telephone facilities or microwave facilities [or other means] of data between computers primarily, or data from a computer terminal into a computer, or other nonverbal kind of data communication." Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue).

5. "[B]y whatever means provided"

One final aspect of the 1973 amendments deserves discussion. In expressly declaring what the service of "communication" includes, the legislature specified that it "includes telephone communication, telegraph communication, and data transmission services *by whatever means provided.*" Or Laws 1973, ch 102, § 1 (codified as ORS 308.505(2)). Comcast argues, and we agree, that the italicized text appears to have been added to codify the holding in *Emerald Loggers Radio Association v. State Tax Commission*, 2 OTR 77 (1965). The issue in that case was whether a private mobile radio communication service was subject to central assessment as a "telephone communication" service. The service permitted wireless telephone communication for a distance of about 10 miles and was used by 34 members of a private association of loggers for two-way communication about emergencies, such as fires and injuries. *Id.* at 78. The Tax Court concluded that, by including "telephone communication" services in ORS 308.515 (1965), the legislature had used the word "telephone" in its broadest sense, which included all businesses involved in "the transmission of intelligence, messages or sound to a far point" regardless of the "means of communication." *Id.* at 79. In other words, as long as the service had the essential characteristics of a telephone service, it qualified as such regardless of the wired, wireless, or other means through which the service was provided.

In the 1973 Senate Revenue Committee hearing on SB 81, the department's representative explained that the bill, in addition to adding data transmission services to the statute, would also "clarify some of the wording in the existing law to eliminate confusion that has existed in the past

and that may exist in the future[.]” Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue). He then described the controversy over centrally assessing mobile radio telephone services and explained that litigation had been required to sustain the department’s position that those services, despite the different means of providing them, were telephone communication.¹⁹ *Id.* The department’s solution to avoid similar controversies in the future, while also ensuring that the newly emerging specialized “data transmission services” would be subject to central assessment, was to “eliminate the discriminatory phrases—telegraph communication and telephone communication—from the present law and simply require it be assessed communication services. Then we’ve added the definition for those communication services to include telephone communication, telegraph communication and data transmission services by whatever means provided.” *Id.*

The addition of “by whatever means provided” serves in a significant, if subtle, way to confirm our understanding of what the legislature intended “data transmission services” to encompass. The legislature understood “data transmission services” to be technology-specific in the sense that the phrase refers to the transmission of information in coded electronic form between computer-like devices. By adding the words “by whatever means provided,” the legislature emphasized that “data transmission services” (as well as telephone and telegraph services) were technology-neutral in terms of the means or medium of the transmission. Thus, the service of data transmission—that is, the service of transmitting information in electronically coded form between computers and computer-like devices—remains

¹⁹ The department representative apparently misspoke in the course of his testimony, stating that “[i]t took a [S]upreme [C]ourt case to uphold our position” when the only reported case was a decision of the Tax Court. His description of the litigation leaves no real doubt that he was referring to the Tax Court’s resolution of *Emerald Loggers* about seven years before: “Some years ago when the radio telephone, mobile radio telephone services, were first made available by several companies, we interpreted the law at that time as requiring that we assess those centrally. It took a supreme court [*sic*] case to uphold our position ***.” Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue).

that service regardless of whether the transmission is over wire, microwave, radio wave, coaxial cable, fiber optic cable, or any other medium that can serve as a means of transmitting the data between devices.

6. *Summary: The Legislature's Intended Meaning*

We conclude that, in amending the central assessment statutes in 1973 to include “data transmission services,” the legislature adopted that phrase from the telecommunications field, intending it to have the meaning that it has within that field. Drawing from the accepted technical meaning and usage of that phrase, we conclude that “data transmission services” are services that provide the means to send data from one computer or computer-like device to another across a transmission network. Data, in turn, is information—whether it originated as voice, video, text, or anything else—that is sent between computers or computer-like devices in coded electronic form. The specific technology used to transmit the data—that is, the “means” of transmission, whether microwave, wire, coaxial, fiber optic, or something else—does not matter. Instead, the defining quality of a data transmission service is that it provides the means to transmit data over a distance between computers or computer-like devices.

III. APPLICATION

With that interpretation of “data transmission service” in place, we turn to the particular services that are in dispute in this case: internet access and cable television. As a factual matter, the Tax Court found that “[t]he cable television business and the internet access business each involve the communication of data.” *Comcast Corp.*, 20 OTR at 320. Later in its analysis, the Tax Court emphasized that “the information transmitted through or by way of the services offered by Comcast is ‘data’ under any acceptable definition.” *Id.* at 335. Although we agree with the Tax Court that both services transmit data, our interpretation of the statutory phrase “data transmission services” requires a more precise characterization of the transmitted data—that is, the data must be in the form of information encoded for transmission between computers or computer-like devices.

Before we examine the services that Comcast *now* provides, it is helpful to briefly sketch the evolution of those services. The telecommunications industry—cable included—has undergone massive change since 1973. In 1973, it was technologically possible to use data transmission to deliver content of all kinds (*e.g.*, voice, video, and text), but the infrastructure and the demand to do so on a broad scale did not exist. As we explain below, however, that began to change in the 1980s, and the change accelerated during the 1990s. The advent of digital technology and high-speed internet resulted in the phenomenon of telecommunications “convergence.” With that convergence, services—such as voice and video transmission—that were once predominantly accomplished using distinctive and different infrastructures have all technologically migrated to data transmission. We therefore begin by describing that transformation within the telecommunications industry, because that background aids in understanding how the cable industry generally—and Comcast included—has become one engaged in data transmission services, even though it was not such a service in 1973.

A. *The Evolution of Cable Services and the Convergence of Cable, Telephone, and Internet Services*

A department witness called to testify at the trial before the Tax Court, Professor Patrick Parsons,²⁰ provided an overview of the beginnings of cable television and how the cable industry has evolved into one capable of providing not only television service, but internet access and telephone (VOIP) services as well. His testimony about that evolution is consistent with what treatises in the field document.²¹

As Professor Parsons explained, the first documented cable television service anywhere in the nation was in Astoria, Oregon, in 1948. It consisted of a simple coaxial cable run by Ed Parsons (no relation to Professor Parsons)

²⁰ Professor Parsons teaches telecommunications at the College of Communications, Penn State University. He is the author of several books and articles about the cable television industry.

²¹ Our description is taken from the testimony of Parsons and other expert witnesses who were called at the trial before the Tax Court, except where other sources are cited.

to his apartment from an antenna placed where it could pick up a weak over-the-air television signal broadcasted from Seattle. Mr. Parsons boosted the signal and was able to get reception on his television as a result. Francis Murphy, *Behind the Mike*, *The Oregonian* 32 (Sept 13, 1967). When he tired of having friends and neighbors constantly coming to his apartment to watch television, Mr. Parsons expanded his system by stringing coaxial cable from home to home to carry the signal to his neighbors. *Id.*

That ushered in the first evolutionary period for cable television, which Professor Parsons described as lasting from about 1950 to 1975. During that time, cable television was principally in the business of transmitting over-the-air broadcast television, primarily in rural areas that did not receive clear broadcast signals. The technology used was similar to Ed Parsons's system. Essentially, cable television providers picked up broadcast signals with an antenna and distributed that signal into a cable network, often manipulating the signal by amplifying it to make it stronger, filtering out unwanted signals, and combining signals from different sources into a composite signal for distribution. Walter S. Baer, *Cable Television: A Handbook for Decisionmaking*, R-1133-NSF, NSF/RA/S-73-002 at 13-15 (1973). Throughout that first evolutionary phase, signals in cable systems moved predominantly in one direction—from the service provider to the customer. *Id.* at 25. Two-way service was technically possible; coaxial cable was capable of sending signals, voice, video, and even coded data in the opposite direction, from the customer back to the service provider. *Id.* But such services were essentially in prototype form and not in general use within the industry. *Id.* Cable television remained a small-scale business because there was no demand for it in more urban and metropolitan areas that were served by over-the-air broadcast television.

The demand for cable television changed, however, when Home Box Office (HBO) began distributing its programming by satellite in 1975. HBO's innovation marked the beginning of the second evolutionary period for cable television. By contracting with HBO to distribute its programming by cable, the industry had something to offer customers in urban and metropolitan areas that they could

not get for free over the public air waves. In the words of Professor Parsons, HBO's availability through cable television "change[d] the nature of the industry," creating the economic incentive for new program providers to enter the market (*e.g.*, MTV, CNN, ESPN) and for the industry to expand and develop the infrastructure needed to meet demand. The second evolutionary period continued into the early to mid-1990s, during which cable television developed into a large-scale and "very, very successful" business.

The cable industry entered its third evolutionary period—which it remains in today—in the mid-1990s with the migration from analog to digital technology. As a result of that migration, the cable industry was able to offer its customers enhanced television service in the form of more channels and higher quality images (so-called "high definition television"), as well as new capabilities—such as on-demand programming sent to the customer at the customer's request—that were not possible with conventional analog technology. More than that, though, the industry was able to expand into "new business lines." Harnessing the same digital infrastructure used for transmitting television and video programming to its customers, the cable industry could provide its customers the additional services of broadband internet access and telephone via internet (VOIP) services, either separately or as a bundled package. When the regulatory barriers to competition within the telecommunications field began to give way in the mid-1990s, so that the cable industry could compete with the telephone industry and vice versa, and both could meet the growing demand for internet access, the result was "profound," to quote Professor Parsons. In effect, digital technology caused a "convergence" of what had once been separate services and industries.

Until that convergence occurred, the technical platforms used by the telephone, telegraph, and television industries were different, because different platforms were best suited to the particular content to be transmitted. As a result, voice transmission services were primarily the domain of the telephone companies; digital signal transmission services (used principally for text) were primarily the domain of the now-nonexistent telegraph services; and video was primarily the domain of the broadcast and cable

television businesses. *See generally* Niloufer Selvadurai, *Meeting the Digital Challenge—The Need to Extend the Parameters of Reform*, 16 J L Inf & Sci 92, 102-03 (2005) (describing how the traditional world of communications required distinct infrastructures for different communication services). But with digital technology, those content distinctions became meaningless.

Now, with digital transmission of content, the content is all the same—it is all digital data, encoded by specialized equipment at one end for high-speed transmission, and decoded by specialized equipment at the other end so that it is in useful form. Professor Think Nguyen, an engineering and computer science expert who testified at trial for the department, explained that, in a digital system, all data is a collection of “bits”—that is, zeros and ones—regardless of whether it is video, voice, or some other original content. The only significant difference is in how the bits are coded for efficient transmission. Video, for example, because of the massive amount of bandwidth it consumes, requires special compression to avoid delays that would make playback jittery or otherwise unacceptable. And although voice requires far less bandwidth than video, the protocols used to compress and encode it are “more stringent” so that it has priority in the transmission, because humans are psychologically intolerant of significant delay (*i.e.*, more than 100 milliseconds) in conversational speech.

The technological convergence brought about by the migration to digital transmission was not unforeseen; it just took time to come about, in part because federal regulatory policy has been uneven. For example, in a 1999 congressional hearing on data services within the telecommunications field, Representative Markey, a long-time member of the House of Representatives Subcommittee on Telecommunications, Trade, and Consumer Protection (and, as of 2013, a Senator), recounted the subcommittee’s “long history with the development of competitive data services” and gave an overview of that history at the outset of the hearing. Hearing on Deployment of Data Services, House Committee on Commerce, Subcommittee on Telecommunications, Trade, and Consumer Protection, 106th Cong, 1st Sess, 3 (June 24, 1999). In particular, Representative Markey

described hearings that he had presided over in the 1980s when the subcommittee, with the goal of shaping regulatory policy, took testimony on the technological convergence that broadband internet and digital networks would bring about. He explained:

“The computer industry was invited to give us its views [on regulatory policy] as well. We heard testimony from John Scully of Apple; Mitch Kapor, the founder of Lotus, John Gage of Sun Microsystems. We were told to get digital; that we were in a period of convergence; that a bit is a bit is a bit. It didn’t matter if it was a voice bit, a data bit, a movie bit, a music bit, a fact bit: all bits could flow over the digital networks and use digital technology. And this subcommittee got digital. We began to foster national proposals to deal with the communications convergence.”

Id. at 4. That led Representative Markey to express his surprise that, in 1999, not everyone was prepared to recognize the realities of the technological convergence that by then had firmly taken hold:

“Our efforts on all these issues eventually bore fruit. We legislated in the midst of this digital convergence and enacted the landmark Telecommunications Act of 1996. That act broke down historic barriers to competition and was designed to unleash a digit[al] free-for-all across all market sectors and industries. Central to the act was the notion that we would treat all entities based upon the services that they were providing and neither based upon their pedigree as a cable company or phone company nor on the particular type of facility used to deliver this service.

“With all this history in mind, one can imagine my surprise when I was told by someone recently that the Telecom Act was only about voice. Simply competition for voice bits. There are apparently many people in the industry suffering from the same bout of telecommunications amnesia. Some people now seem to be saying that a bit is a bit is a bit, but some bits are more special than other bits. Rather than communications convergence, people are proposing digital divergence, proposing to rip data bits out of the bit stream and treat them differently from voice bits. There are also suggestions that identical telecommunications services offered over different facilities should be treated differently. How very undigital.”

Id. at 4-5. However well federal regulatory policy has or has not responded to the convergence brought about by digital transmission, that convergence—as a fact of technological life—has occurred.²²

B. *Comcast's Internet Access and Cable Television Services*

That background brings us to the service-specific dispute in this case: Are Comcast's internet access or cable television services "data transmission services" within the meaning of ORS 308.505(2)? More specifically, are they services that provide the means for transmitting electronically coded information between computers or computer-like devices? The record before us answers that question unequivocally in the affirmative for both services. Although

²² In 2006, for example, the Senate Committee on Commerce, Science and Transportation held 14 hearings to take testimony from (among others) the wired and wireless telephone, cable, internet, and satellite industries on various communication issues. One of those hearings was devoted entirely to the "phenomenon of convergence" and the continuing challenge of setting federal regulatory policy for industries that were no longer meaningfully distinguishable in the services they provide. *See generally* Hearing on Competition and Convergence, Senate Committee on Commerce, Science, and Transportation, 109th Cong, 2d Sess, 1-2 (Mar 30, 2006) (statement of Senator Ted Stevens, Chair). As regulators, legislators, and academics alike persistently observe, federal regulatory policy has not yet come close to meeting that challenge. *See generally, e.g.*, Kathleen Q. Abernathy, *The Journey to Convergence: Challenges and Opportunities*, 12 *CommLaw Conspectus* 133, 133 (2004) (Commissioner, FCC) ("Formerly distinct categories of communications services are collapsing into one as voice, data, and video are all transmitted via digital bits" so that FCC has become "increasingly aware in recent years that this technological and marketplace convergence demands fresh thinking by regulators."); Rob Frieden, *Adjusting the Horizontal and Vertical in Telecommunications Regulation: A Comparison of the Traditional and a New Layered Approach*, 55 *Fed Comm L J* 207, 208 (2003) (Pioneers Chair in Cable and Telecommunications and Professor, Penn State) (discussing the failure of FCC "policies based on fixed service definitions and relatively static assumptions about the industrial organization of telecommunications and information processing"); Senator Ted Stevens, *The Internet and the Telecommunications Act of 1996*, 35 *Harv J Legis* 5, 7 (1998) (urging that FCC policies have led to unnatural migration of telecommunication services to preferentially regulated communication services). Nor have states necessarily wrestled successfully with realities of convergence in setting state taxation policies. *See, e.g.*, Hearing on State Taxation of Interstate Telecommunications Services, US House of Representatives Subcommittee on Commercial and Administrative Law of the Committee of the Judiciary, Serial No 109-120, June 13, 2006, 17 (Statement of Illinois Senator and President of the National Conference of State Legislators, Steven Rauschenberger) (testifying that convergence has blurred distinctions between telephone, internet, cable, wireless, satellite, and other communications services, with the troubling result that "similar services can be delivered by networks that are taxed very differently").

we need not delve into the more complicated aspects of the technology involved for either service, it is worthwhile to describe in general terms how each service entails data transmission as we have interpreted it for purposes of central assessment.

1. *The Technology Used in Comcast's Cable Tele-vision Service*

Comcast's cable television begins with video programming that Comcast obtains from three basic sources: over-the-air broadcasts; programming transmitted to Comcast via satellite; and "direct studio feed" over fiber optic cable. Comcast then combines its source video programming at a location called a "headend facility," where it is processed in a way that results in the actual programming, menus, guides, and other services delivered to the customer. Although the way that Comcast compresses and transmits data across its network is proprietary, certain aspects of it necessarily conform to industry standards.²³ Thus, Professor Nguyen was able to explain certain aspects of Comcast's cable television service with confidence. Comcast uses a compression protocol (MPEG-2) to transmit data for purposes of its video services. For its regular programming, the data is transmitted from Comcast's "headend" facility to the customer's home. For on-demand movies and other video programming, the data is stored on servers, which are "high end" specialized computer devices that store massive amounts of data and are capable of transmitting that data to individual customers on request.

For a customer to view the video programming, the data generally first goes through a receiver in the form of a "set top box," which is connected to the customer's

²³ Because of their proprietary nature, the exact protocols that Comcast uses and how it combines its various sources of video were held confidential during the trial before the Tax Court. The department therefore had to make its case by presenting expert testimony as to how digital information—from an electrical engineering standpoint—must be processed and transmitted through the kind of infrastructure that Comcast uses (a combination of fiber optic and coaxial cable) if it is to interconnect, as Comcast's system does, with the internet and other communication services, such as satellite transmission. The Tax Court ultimately admitted the testimony of the department's expert, Professor Nguyen, explaining: "I understand your testimony to be that to some extent, given industry standards and given industry requirements, you can almost infer backwards [what Comcast] must be doing in order for the whole thing to work."

television.²⁴ In effect, a set top box is a computer or computer-like device with a microchip in it that gives it its functionality. The primary function of the set top box is to take compressed video data transmitted through Comcast's infrastructure and transform it into a signal that is usable at the customer's end. Set top boxes also, depending on the model of the box, control the delivery of enhanced television services. Thus, the model of set top box determines whether a customer will receive high definition television service, on-demand programming, or have the capability to record programming for later viewing (digital video recording, or "DVR"). A set top box "off the shelf" can do nothing, however. It is, in the words of one of Comcast's experts, "a dead device." Comcast must first direct "command-line code" to the box for the customer to be able to view any television programming or have access to enhanced television services.

2. *The Technology Used in Comcast's Internet Access Service*

Comcast's internet access service provides high-speed internet access to customers, thus permitting them, as described by one of Comcast's experts, "to be able to transmit and receive whatever they are asking or receiving to either a business, a service, or to another person's home." The server requires a cable modem at the customer's end, which sends and receives signals to Comcast's headend facility over the same infrastructure used for Comcast's cable television and VOIP (telephone) services, coding and decoding them in the process.²⁵ After the data is transmitted to the headend facility, Comcast "distribute[s] it out through

²⁴ Although the record is sketchy on the point, in some localities, Comcast evidently uses a blend of analog and digital signals and delivers "basic" programming (principally over-the-air broadcasts that Comcast is obligated to carry) without a set top box of any kind. In those localities, customers who subscribe to only basic service attach the coaxial cable carrying the signal directly to their televisions. The record suggests that in most localities, however, the signal for basic service is transmitted in digital form and a set top box is required to convert it into analog form for use.

²⁵ The label "modem," Professor Nguyen explained, comes from the terms "modulation" and "demodulation," which refer to a complicated process by which signals or data are put into a form for efficient and reliable transmission over a medium, such as fiber optic or coaxial cable.

a series of networks and routers and switches, out into the *** worldwide web.” For all data sent and received as part of its internet access service, Comcast uses a standard digital data protocol (“DOCSIS,” which stands for “data over cable service interface specification”). Using Comcast’s internet access service to send and receive data, customers can browse the web, transfer files using computer file transfer protocols, exchange e-mail, and generally avail themselves of whatever information, services, and content is available via the internet. To do so, a customer must have a personal computer or other computer-like device capable of making use of the data that Comcast transmits through the cable modem.

3. *Are Comcast’s Services “Data Transmission Services”?*

Those descriptions of Comcast’s services are concededly rudimentary and do not convey the technological complexity involved for either Comcast’s cable television or internet access services. But they are sufficient for the issue before us. They demonstrate what Comcast does not really contest in this case—that both services fundamentally transmit information and other content in electronic form between computers or computer-type devices capable of coding and decoding that content into useful form. The protocols and compression algorithms used, along with other aspects of the transmission, are complex and technical. Comcast simply has not disputed, however, that what it transmits over its cable network is predominantly digital data in the form of bits. The fact that the content originates as video, converts to bits for transmission, and then at some point is video again does not make Comcast’s service something other than one that transmits data. There are not, to borrow from Representative Markey, voice bits, data bits, movie bits, music bits, or fact bits. They are all just bits, compressed and organized for efficient and reliable transmission through a digital infrastructure. It is only when a computer or computer-like device on the receiving end of the transmission converts them into a useful form that the original content (such as voice, video, text) is available to the recipient. So understood, the transmission service that Comcast provides for both cable television and internet access is the essence of what the legislature understood

data transmission services to be: “the transmission over telephone facilities or microwave facilities [or other means] of data between computers primarily, or data from a computer terminal into a computer, or other nonverbal kind of data communication.” Tape Recording, Senate Revenue Committee, SB 81, Feb 9, 1973, Tape 10, Side 2 (statement of Victor Bredehoeft, Department of Revenue).

C. *Comcast’s Contrary Arguments*

Comcast nevertheless makes a set of arguments in favor of either a more narrow interpretation of “data transmission services” or a more narrow application to Comcast’s cable television and internet access services. We discussed and rejected Comcast’s principal argument earlier—that the legislature intended to reach only microwave private line transmission of intracompany business data. Comcast’s remaining arguments are better addressed against the backdrop, set out above, of the evolution of the cable industry and the technological convergence that has occurred in the telecommunications field.

1. *The Legislature’s Silence on Cable Television*

Comcast takes the position that, however data transmission services is defined and whatever else it may include, the legislature could not have intended it to include Comcast’s cable television service, because no one in the 1973 hearings mentioned cable television. That omission is significant, Comcast argues, because cable television by then was a well-established service in Oregon and throughout the nation. It follows, contends Comcast, that the legislature intended to leave the cable television industry subject to local assessment only. According to Comcast, because the legislature has never amended the statutes to specifically address cable television services or to otherwise make those services expressly subject to central assessment, the phrase “data transmission services” cannot extend to cable television, at least not consistently with the legislature’s intent.

The simple answer to Comcast’s argument is that the cable television service that it now provides is not the same service that the cable industry was delivering in

1973. When the legislature amended the statutes in 1973, the demands for data transmission were nascent. Although nothing in the record before us establishes precisely how cable television services were delivered in Oregon in 1973, Professor Nguyen's uncontradicted testimony establishes that they were not delivered through a digital network that sent data to and from cable modems and through set top boxes that convert compressed digital bits to and from analog and other usable signal forms. It is unsurprising that no one in the legislative hearings discussed cable television given that the cable television industry was not then delivering its content through a data transmission service as the legislature understood that terminology.

Sometime between 1973 and 2009, when the department first centrally assessed Comcast's cable television service, the cable television industry—along with the rest of the telecommunications industry—underwent a revolutionary transformation with the advent of high-speed internet and digital networks. Put bluntly, since then, everything has “gone digital,” cable television included. Voice communication is largely accomplished with data transmission; television and video communication are largely accomplished with data transmission; text communication is largely accomplished with data transmission; information communication is largely accomplished with data transmission. The legislature did not make the original or eventual content on the sending and receiving ends (*e.g.*, voice, video, text, information) a defining characteristic of what qualifies as a data transmission service. The defining characteristic is, instead, the format of the data transmitted. If the data is in the form of electronic information coded for and transmitted from one computer or computer-like device to another—as Comcast's television cable service *now* unquestionably entails—it does not matter that, in 1973, the service was of a different nature and went unmentioned by the legislature.

Nor does it matter that the legislature in 1991 declined to amend the description of “communication” services in ORS 308.505(2) to expressly include cable services. Specifically, Comcast points to House Bill (HB) 2556 (1991), which would have expressly added cable television

to the central assessment scheme by adding it to the list of businesses and services that the term “communication” includes. HB 2556 did not make it out of committee and was not enacted into law. The Tax Court, for its part, found that history difficult to ignore, noting that “[t]he actions and words of the legislators and of the persons appearing before the legislature [were] not consistent with a conclusion that cable television was already subject to central assessment under the statute[.]” *Comcast Corp.*, 20 OTR at 324.

There are two answers to Comcast’s reliance on that history. One is the answer we have given in other cases: What later legislators thought is irrelevant to what an earlier legislature intended with an enactment, especially in the context of a later bill that never became law. *DeFazio v. WPPSS*, 296 Or 550, 561, 679 P2d 1316 (1984) (“The views legislators have of existing law may shed light on a new enactment, but it is of no weight in interpreting a law enacted by their predecessors.”); *Hilton v. MVD*, 308 Or 150, 156, 775 P2d 1378 (1989) (“A later legislature’s failure to change a previously enacted statute is not part of the legislative history of that statute[.]”).

The second answer is specific to this case: The failed 1991 bill may show that, at that point in time, legislators were not inclined to list the specific service of cable television as a “communication” service *along with* “data transmission services” and the others in ORS 308.505(2). That choice says nothing, however, about whether cable television qualified as a “data transmission service” as of 1991 or whether legislators thought that cable television should be specifically *excluded* if it did. As the testimony in this case suggests, cable television likely had not migrated by 1991 to a digital network platform and was not then delivering television programming through data transmission. In this case, we need not determine whether, before 2009, Comcast was a “communication” service within the meaning of ORS 308.505(2) and ORS 308.515. *See* 356 Or 294 n 6). The dispositive question before us is whether, as of 2009, Comcast’s cable television service is a “data transmission service” within the meaning of ORS 308.505(2). Our conclusion that it is now a data transmission service is a complete answer, regardless of what the answer might have been in 1991.

2. *The Legislature's Silence on Internet Access Service*

Comcast makes a related argument in connection with its internet access service. Specifically, it argues that the legislature could not have intended internet access service to be included in “data transmission services” because that service did not exist as of 1973. Most of Comcast’s points in that regard circle back to its premise, which we have rejected, that the legislature intended “data transmission services” to describe the service of private line microwave transmission of intracompany business data. From that premise, Comcast argues that the legislature contemplated only a “discrete service” with a particular “functionality,” and internet access is simply a “portal” service, one that gives users “myriad functionalities and capabilities” beyond anything that the legislature contemplated in 1973. Comcast emphasizes that it does not “own the internet,” and no one does. Rather, Comcast urges, the internet consists of individually owned pieces of a network interconnected with each other through protocols and transmission standards that make the interconnection possible.

Just as that argument did not detain the Tax Court, it does not detain us. Comcast makes no effort to argue that, for its piece of the internet network (which it concedes it must maintain to provide internet access service), it does not in fact transmit to and from its customers information of all kinds (such as voice, video, and text) in the form of data that must be processed at both ends by computers or computer-like devices. Comcast’s only argument is that the legislature did not foresee the existence of internet access services, so even if internet access service is in a technical sense a data transmission service, it is not subject to central assessment because that precise application of the service was not within the legislature’s contemplation in 1973.

As we have already described at length, however, the 1973 hearings establish that the legislature was anticipating future developments—even if it did not have a concrete vision of that future—by amending the statute to expressly include the emerging service of data transmission; the amendment was not intended to reach only the particular use (microwave private line business data transmission) that prompted the legislature’s attention. The fact

that internet access service did not exist in 1973 does not place it beyond the reach of the policy that the legislature enacted. If it qualifies as a data transmission service within the meaning of ORS 308.505(2)—and we conclude that it does—it is subject to central assessment whether it has been in existence for 40 years or 40 days.

3. *The Specter of Unconstitutionality*

Comcast's final argument is that, if the phrase "data transmission services" is interpreted broadly, it will run into constitutional problems, a fact that should counsel in favor of interpreting it narrowly. Comcast contends that too broad a definition of "data transmission services" will sweep up all forms of communication that involve, in some way or another, the transmission of data. Comcast warns that magazines, newspapers, online legal research providers, radio stations, billboards, and over-the-air broadcasters could all be subject to central assessment as "data transmission services," reasoning that each involves the transmission of data in the broadest sense of the word—that is, the communication of information. In Comcast's view, that would place the department in the position of picking "winners and losers" in terms of who is centrally assessed and who is not. According to Comcast, for the department to play that role would violate Article I, section 32 (taxes may not be imposed without the consent of the people), and Article III, section 1, of the Oregon Constitution (separation of powers).

Although that argument gave the Tax Court pause, it should not have. Comcast's argument depends on the term "data" meaning information of all kinds, akin to the definition of the singular form of the word "datum" that we quoted earlier. But that is not the meaning that the legislature intended. Rather, the full phrase "data transmission services" has a technical meaning drawn from the telecommunications field. The phrase therefore means something more exacting—it refers to the service of transmitting coded electronic information between computer and computer-like devices. It is difficult to see—and Comcast does not explain—how many of the "forms of communication" that Comcast fears will be swept into central assessment would qualify under that definition. For example, publishing and sending

a magazine through the mail or delivering a newspaper to the front step of a person's home may be ways of transmitting information from one place to another. But neither example is a "data transmission service" within the meaning of ORS 308.505(2). If, instead, the magazine or newspaper is put into digital form and made available for viewing or downloading via the internet, the publication then is in the form of data, as required by ORS 308.505(2). But the publisher is not providing the service of transmitting the data so that it can be read on someone's computer or tablet electronic reading device—that service likely is provided by Comcast or some other for-fee internet access service. The same is true of online research and myriad other kinds of information and content accessible through the internet.²⁶

In all events, the issue before us is only whether Comcast's internet access and cable television services qualify as "data transmission services," not whether other services do. Comcast's examples of the publications and information services that it fears will be swept into central assessment are exaggerated and do not persuade us that the phrase "data transmission services" is so broad that it poses constitutional concerns.²⁷

D. *The Tax Court's Reasoning on Cable Television*

As we have described, the Tax Court determined that Comcast's internet access service is a data transmission

²⁶ As for Comcast's other examples, billboards seem like a less than serious example. Over-the-air broadcast television and radio are more credible ones. Although our resolution in this case will provide guidance for future applications of ORS 308.505(2), we resolve no dispute other than the ones before us. We note only that over-the-air broadcast television and radio involve a means of communication that differs in significant ways from the services before us. Among other things, no subscriptions are required; viewers do not pay a fee to the over-the-air broadcaster to view or listen to the programming. Nor does the broadcaster control who listens to or views the programming. Rather, the broadcaster releases the signal or data into the public airwaves in a form that permits all persons within range to view or listen to the broadcast, if they have the equipment needed to receive the signal or data through the airwaves.

²⁷ Other than the examples that it lists, Comcast devotes no analysis to its constitutional concerns. Without more development of the vague constitutional principles to which Comcast alludes, we decline to address Comcast's argument beyond pointing out that it is not based on "data transmission services" as we have interpreted that phrase and the examples that Comcast cites do not demonstrate that our interpretation is unmanageably broad.

service, but its cable television service is not. In reaching that conclusion, the Tax Court adopted an interpretation of “data transmission services” that neither Comcast nor the department had proposed, and that neither defends on appeal. Specifically, the Tax Court determined that, by referring to data transmission as a “service,” rather than to data as a commodity, ORS 308.505(2) reaches only businesses that, for a fee, take data owned or generated by one party and move it to another party. *Comcast Corp.*, 20 OTR at 332. The Tax Court concluded that Comcast’s internet access service therefore is a data transmission service, reasoning that the data that flows in the internet access service is “not data created by Comcast or data as to which [Comcast] has publication rights.” *Id.* at 335. But the court reached the opposite conclusion for Comcast’s cable television service, which it concluded principally transmits to customers content in the form of data (*e.g.*, television programming, movies, and special channels by subscription) that Comcast itself owns or otherwise has the right to transmit. *Id.* at 333. The Tax Court explained:

“Comcast here sells content to its customers and delivers the content over its system. A retailer sells products to customers and may deliver those through the use of railroads or air express. The mode of delivery does not convert the retailer into a railroad under subsection (1)(a) of the statute or an air express company under subsection (1)(g) of the statute.”

Id. at 331.

The flaw in the Tax Court’s reasoning is revealed in that quotation: A retailer who sells products to customers and uses the railroad to deliver them does not (at least in the Tax Court’s example) *own* the railroad. The railroad is still a railroad, and remains subject to central assessment. That would remain true even if the railroad were to use its own transportation service to transport retail goods that it owns. Said another way, the fact that the railroad is engaged in dual businesses (retail and transportation) does not cause it to lose its character as a railroad. The same is true of Comcast. Here, the fact that it is in the business of both selling video content and transmitting it in digital form to its customers does not divest Comcast of its character as a data transmission service.

Nor does the context provided by the central assessment statute as a whole support the Tax Court's reasoning. "Communication" services are listed in common with services such as heating, gas, and electricity. ORS 308.515(1). Those services all involve selling customers not only the service of transmission, but also the commodity being transmitted. We fail to see in the statutory text or its context any basis to conclude that the legislature intended to differentiate data transmission services based on whether the data that the customer receives is data directed to it by the service provider itself or by some third party. In addition, we are not as confident as the Tax Court was that the distinction would aid Comcast in this case, because the record shows that a significant portion of the data that Comcast's cable television service transmits is, in fact, digitized content owned or generated by others.²⁸ Fundamentally, however, the distinction makes no difference under the statute.

E. *Summary*

As we have explained, based our analysis of the text, context, legislative history, and technical meaning of "data transmission service," we interpret that phrase to extend to any service that provides the means for the transmission of electronically coded information between computers or computer-like devices. If the service does that, it is a data transmission service regardless of the original nature of the content that is converted into digital form for transmission. That is, it does not matter if the data has been converted from voice to bits, video to bits, text to bits, or for that matter, atoms to bits.²⁹ For purposes of our inter-

²⁸ The Tax Court did not take into account a significant aspect of Comcast's cable business: advertising that third parties pay Comcast to include in its programming, which Comcast itself has characterized as a significant portion of its overall revenue. For example, Comcast took in \$1.5 billion from advertising in 2008. The record also establishes that Comcast neither owns nor licenses the so-called "must carry" content, which consists of, as characterized in Comcast's 2008 SEC Annual Report, "the programming transmitted by most local commercial and noncommercial television stations."

²⁹ For example, in existence now and on the horizon for widespread future use is the technology of so-called "3D printing." That development has already made it possible to turn atoms into bits and bits back into atoms by digitizing the information needed to do "print" (that is, construct, assemble, manufacture, and replicate) everything from machine parts, to works of art, to food and medicine,

pretation, bits are bits. Likewise, it does not matter if the means of transmission is fiber optic cable, coaxial cable, microwave or other wireless conduit, the wired network traditionally used for telephone communication, or a means of transmission not yet in use or conceived. What matters is that the information or other content being transmitted is in the form of data. Finally, it does not matter that the service preexisted the 1973 amendments, and only since then has evolved to become a data transmission service, or that it postdates those amendments and is an unprecedented use of data transmission services. The evidence in the record about the nature of Comcast's internet and cable transmission services is effectively undisputed and establishes that, within the meaning of ORS 308.505(2), both services are "data transmission services."

IV. REMAINING ISSUES

The department raises two additional issues under its assignments of error. The first arises under ORS 308.510(5), which provides that property used in both a centrally assessed business and a non-centrally assessed business is subject to central assessment if its primary use is in the centrally assessed business.³⁰ As we earlier described, Comcast uses the same basic infrastructure for both its cable television and internet access services. Because the Tax Court concluded that Comcast's internet access service is a data transmission service and its cable television service is not, the Tax Court had to further decide which service was the primary use of Comcast's property. The Tax Court concluded that the property's primary use was for Comcast's cable television service and, therefore, the property was

and to body parts. *See generally* Lucas S. Osborn, *Regulating Three-Dimensional Printing: The Converging Worlds of Bits and Atoms*, 51 San Diego L Rev 553 (2014) (describing wide range of current and future uses for 3D printing, along with legal issues that 3D printing presents); *see also* Hod Lipson and Melba Kurman, *Fabricated: The New World of 3D Printing* (2013) (canvassing current and anticipated uses of 3D printing technology).

³⁰ ORS 308.510(5) states, in relevant part:

"Property found by the department to have an integrated use *** in more than one business, service or sale, where at least one such *** service *** is one enumerated in ORS 308.515, shall be classified by the department as being within or without the definition of property under [ORS 308.510(1)] according to the primary use of such property, as determined by the department."

not subject to central assessment at all. *Comcast Corp.*, 20 OTR at 337. The department challenges that conclusion, asserting that the Tax Court's methodology for determining primary use was flawed. We need not reach that issue, however. Because we have determined that both Comcast's cable television and internet access services are data transmission services, the primary use of Comcast's property is no longer an issue in the case.

The converse is true of the department's second argument, however. That argument presents an issue that was moot under the Tax Court's resolution of the case, but is not moot under ours.

Specifically, before the Tax Court, Comcast challenged the maximum assessed value (MAV) that the department had placed on Comcast's centrally assessable property for the 2009-2010 tax year. Briefly described, Comcast argued that the amount of the assessment exceeded the three-percent cap set under Measure 50. *See* Or Const, Article XI, § 11(1)(b) (a "property's maximum assessed value shall not increase by more than three percent from the previous tax year"). The department responded to that challenge by arguing that Comcast's centrally assessed property falls within the exception for "new property or new improvements to property." Or Const, Article XI, § 11(1)(c)(A).

The department asks us to reach and resolve that dispute, even though the Tax Court did not, urging that it presents a purely legal question that this court appropriately may resolve on appeal. Regardless of whether the department is correct in characterizing the issue as purely one of law, we decline the department's invitation. The issue entails an intricate question of tax law, one that involves assessment procedures and practices that the Tax Court deals with frequently. The statutes that provide for tax cases to be resolved first by the Tax Court, before coming to this court on appeal, implicitly recognize the value to this court of the Tax Court's resolution of tax disputes in the first instance. The MAV issue that the parties dispute is one that is appropriately resolved first by the Tax Court.

The decision of the Tax Court is reversed, and the case is remanded to that court for further proceedings.